

The University of Chicago

FEDERAL RESERVE BANK POLICY IN IOWA

A PART OF THE DISSERTATION SUBMITTED TO
THE GRADUATE FACULTY IN CANDIDACY FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

THE SCHOOL OF COMMERCE AND ADMINISTRATION

By

RALPH RUSSELL PICKETT

Private Edition, Distributed by
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IN IOWA

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PREFACE

The operations of the Federal Reserve System in Iowa cover almost seventeen years. However, the public and even the bankers at first showed little interest in its activities, and for the purposes of the present study the results of the first few years are not significant. Member-bank operations were first reported by states on June 30, 1919, and from this date it is possible to trace in detail the course of the various items, such as capital investment, loans, and deposits.

Interest in the activities of the System in Iowa centers particularly around its relationship to agriculture and its responsibility for bank failures. Credit assistance to the farmer first became an issue in the latter part of 1920, and the heavy bank mortality dates from 1923. June 30, 1919, therefore, serves as a logical starting-point for a detailed analysis of member-bank operations. The review of the activities of the System is carried through June 30, 1930, but no attempt is made to consider specifically the developments of the last two years. On some points changes in the methods of reporting data make it necessary to limit the analysis to the 1919-28 period.

I desire to express my appreciation for the assistance of many bankers and financial writers in Chicago and Iowa for information and opinions. The material for chapter v was made available through the courtesy of Mr. Kent C. Childs, formerly controller of loans and credits, and Mr. J. H. Dillard, deputy governor, of the Federal Reserve Bank of Chicago. I am particularly indebted to Professors Garfield V. Cox and Lloyd W. Mints of the University of Chicago, and to Dr. Lionel D. Edie of New York City, for helpful advice and criticism.

RALPH R. PICKETT

EMPORIA, KANSAS
September, 1931



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CHAPTER I

INTRODUCTION

Iowa banking development reflects the predominance of agriculture and the relatively small population. These factors, combined with the absence of large cities and leading financial centers, have encouraged decentralization in banking, a tendency which has been aided by some survival of the frontier attitude with its distrust of centralized financial power. The result is a system of unit banks, the typical community having one or more small banks, locally owned and managed.

The banking structure.—Four classes of chartered institutions and a small number of private banks make up the Iowa banking system. The latter are not subject to regulation by the superintendent of banking. Information in regard to their operations must, therefore, be based entirely upon their voluntary reports to the controller of the currency. In 1920, 100, and in 1929, 46, private banks made reports. These figures doubtless understate the number of this class of banks. The available evidence points to a particularly high mortality among these institutions in recent years and to a rapid decline in relative importance. They are not directly affected by Federal Reserve policy and may, therefore, be omitted from further consideration.

The relative importance of the four classes of chartered banks is suggested by Table I. The savings banks constitute the largest class of state-chartered institutions. They do a general banking business and should be regarded as commercial banks, though organized under the savings-bank law. The growth of this class was encouraged by the early enactment of the law and by the low minimum capital required. At the pres-

ent time the differences in the legal provisions relating to state and savings banks are unimportant. The number of trust companies has never been large, and the tendency in the past decade for the other classes to assume trust functions removes any occasion for new institutions to seek this form of charter. Changes in the number of national banks have corresponded roughly to those in the state-bank group, the latter being the larger.

The rapid increase in number of banks during the first twenty years of the century has been followed by a sharp de-

TABLE I
COMMERCIAL BANKS IN IOWA*

	1899	1920	1925	1930
Savings.....	186	934	824†	646
State.....	207	389	373†	316
Trust companies.....	9‡	23	19†	13
National.....	172	358	340	241
Total.....	574	1,704	1,556	1,216

* Compiled from the annual reports of the controller of the currency, the reports of the (Iowa) superintendent of banking, and the census of Iowa. Except where otherwise indicated, the figures are for June 30.

† May 1, 1925.

‡ June 30, 1895.

cline since 1920.¹ Though merger and voluntary liquidation were factors, failure was the main cause for the great decrease in recent years. During the ten-year period 1921-30, 614 Iowa banks, with deposits totaling 201 millions of dollars, were forced to suspend operations.² In 1920, 34 banks, with deposits of 9 millions, closed their doors; and in 1930 the total reached 86, with deposits of 31 millions of dollars. The seriousness of the suspensions of these years is emphasized by the fact that

¹ See article by the writer, "The Size of Failing Banks in Iowa," in the *Journal of Business of the University of Chicago*, II, No. 1 (1929), 65-81.

² See *Sixteenth Annual Report of the Federal Reserve Board*, p. 23, and *Seventeenth Annual Report*, p. 18.

Iowa led all the states, both in number of failures and in the amount of deposits involved. In sharp contrast to the recent period is that prior to 1921, during which banking in Iowa was characterized by a remarkably small number of failures.

The control of banking.—In the control of banking, public regulation has played an important part. The provisions of the banking laws concerning capital requirements particularly have directly influenced the number and size of the three classes of

TABLE II
MINIMUM CAPITAL REQUIREMENTS*

MINIMUM CAPITAL	POPULATION OF COMMUNITY IN WHICH REQUIREMENT APPLICABLE FOR CLASS OF BANK INDICATED			
	Savings† 1917-29	State 1873-1929	State and Savings since 1929	National‡ since 1900
\$ 10,000	1,000 or less	.....	.....	.....
15,000	1,000-2,000	.....	.....	.....
25,000	2,000-10,000	3,000 or less	3,000 or less	3,000 or less
50,000	Over 10,000	Over 3,000	3,000-6,000	3,000-6,000
100,000 . . . . .	.....	.....	Over 6,000	6,000-50,000
200,000 . . . . .	.....	.....	.....	Over 50,000

* Compiled from *Laws of the United States Concerning Money, Banking and Loans 1778-1900; Code of Iowa, 1873; Laws of Iowa, 1874*, chap. 60; and *Banking Laws of Iowa, 1929*, chap. 415.

† Prior to 1917 the minimum capital was \$10,000 in towns of 10,000 or less and \$50,000 in towns of more than 10,000 population.

‡ Prior to 1900 the minimum was \$50,000 in towns with 6,000 or less inhabitants.

institutions.¹ The summary of legal provisions in Table II indicates the character of these requirements.

Though the tendency has been toward uniform capital requirements for the three classes, the growth of the savings-bank system was aided by the lower capital requirements during the period of most rapid banking development, covering the years from 1880 to 1910.²

¹ Inasmuch as state bank requirements concerning capitalization are also applicable to trust companies, the latter are not treated as a separate class.

² In 1917, requirements for savings banks were increased; and in 1929 the provisions for the three classes were made uniform except in the few centers with a population exceeding 50,000.

In recent years the state legislature has been the battleground for banking reform, the need for which has been strongly emphasized by the large number of bank failures. The result of years of agitation was the defeat of the guaranty of deposits bill demanded by an aggressive farmer group and of the county clearing-house examination plan sponsored by the bankers. The general banking law enacted in 1929 provided for improved machinery for bank examination and supervision, the restriction of new charters for banks, increased minimum capital, a maximum limit for interest on time deposits, and the requirement of financial statements of borrowers. Though the law was a distinct improvement over existing banking statutes, it should not be expected to produce important improvements in banking practice. Most of the changes required had already been made. Unfortunately, there was no disposition on the part of any legislative or banking group to consider far-reaching changes in the banking structure. The fundamental principles of the banking system were unhesitatingly accepted as correct. Thus the prohibition against branch banking remained on the statute books. No specific plan was provided for the merger of banks in declining communities, and there was no systematic attempt to determine the causes for the heavy bank mortality.

Further control of banking is exercised by the city correspondents of Iowa banks. In the main, however, these institutions are concerned with protecting their own interests and with promoting friendly relations with country correspondents. They have not been influential in promoting Federal Reserve policies. Thus, for example, the standards for eligible paper which are carefully enforced by the Federal Reserve are almost totally disregarded by the city correspondent banks, the desirability of the advance as a credit risk being their primary consideration. The amount of Federal Reserve credit transmitted through correspondent banks is negligible.

The provisions of the Federal Reserve Act with respect to paper eligible for rediscount affect directly the credit standards of banks borrowing from the Federal Reserve. Inasmuch as the total volume of these borrowings is normally small, the Federal Reserve has not been able to force general changes in banking practice. The degree to which these provisions have served as a standard to which banks conform as a safety measure in the contingency that they may be forced to ask for credit, or to which they conform voluntarily because the standards are considered good banking, is difficult to determine. The standards appear to have had considerable influence upon the character of the paper which member banks accept from their customers. The influence in this respect upon non-members is not significant.

The criticism that the requirements as to eligible paper established by the Federal Reserve have restricted the borrowing power of the farmer is not justified. Though Iowa banks loaned the farmer funds for capital purposes to a greater extent formerly than at present, the decrease is due primarily to the unfortunate experience of banks with real estate loans following 1920, rather than to the eligibility provisions of the act. Moreover, the farmer has not suffered from the lack of credit for permanent capital. In addition to the credit supplied by commercial banks, former owners, private investors, insurance and mortgage companies, the farmer in recent years has been able to look to new sources. The Federal Farm Loan System, established in 1916, provides credit for fixed capital purposes on terms designed to fit the borrowing ability of the farmer. It is estimated that in 1925, 6.6 per cent of the farm mortgages in Iowa were held by the land banks.¹ The increase in this source of credit has more than offset the decrease in mortgages

¹ See W. G. Murray and F. L. Garlock, *Farm Mortgage Debt in Iowa* (Ames, Iowa: Iowa State College, October, 1927), p. 8.

held by the commercial banks.¹ Since 1923 the Federal Intermediate Credit banks have constituted another source of credit to the farmer, thus further relieving his dependence upon the commercial bank.

Public opinion has been an important factor in determining banking policies. The speculative enthusiasm of the war and post-war years encouraged liberal lending. Price deflation produced a hostile attitude, directed mainly at the administration of the Federal Reserve System. Severe and widespread criticism resulted, chiefly on the ground of responsibility for deflation and of discrimination against agriculture.

The foregoing review of recent Iowa banking suggests the important factors in an analysis of Federal Reserve policy. The responsibility of the System for the bank failures of the past decade and its alleged discrimination against agriculture are outstanding considerations in the history of its operations. It is also important to examine the character of the numerous relationships of the Reserve Bank with its member institutions and the general treatment accorded the latter. The present study, therefore, undertakes an interpretation of recent Federal Reserve policy and an appraisal of its effects upon the economic life of Iowa.

¹ It is estimated that in 1915, commercial banks furnished 20.3 per cent of farm mortgage loans; in 1925, 15.5 per cent. See Murray and Garlock, *op. cit.*

CHAPTER II

MEMBER-BANK OPERATIONS

The development of Federal Reserve policy is reflected in the activities of member banks. Thus the history of the more important items, including membership, capital investment, loans, deposits, and borrowings, provides the basis for an analysis of the policies of the system.¹

Membership.—Though the membership of state institutions increased during the war, only 80 of a total of 1,320 had joined the System by the close of 1919. The 354 national bank members brought the total Iowa membership to 434 at that date. The increase in total number of banks during 1920 was reflected in some increase in membership. During the depression years of 1921 and 1922 the changes in number of member banks were slight, the peak of 459 being reached at the close of the latter year.

The report of the superintendent of banking for June 30, 1921, lists 1,350 state-chartered institutions at that date. This was the largest number in the history of banking in Iowa, and the decline since that date has been accompanied by a declining Federal Reserve membership. The gradual loss of member banks during the next three years was followed after the middle of 1924 by a rapid decrease. Thus, on June 30, 1928, the total membership was 328, an average annual loss of 30 during the 1924-28 period. The decline in national membership was 84, and in state 46, during the seven years ending in 1928.

Although failure and consolidation were primary factors in the decline in membership, they do not offer a complete ex-

¹ The comparison of member-bank items is based upon data from the member-bank call reports.

planation. In the seven years ending June 30, 1928, the decline of 44.2 per cent in state and 28.4 per cent in total membership was greater than the 21.7 per cent decline in number of state-chartered banks. In terms of the proportion of banks included in the System, the Federal Reserve was relatively less influential in Iowa in 1928 than in 1919.

TABLE III
FEDERAL RESERVE MEMBERSHIP IN IOWA, 1919-30

June 30	National	State	Total
1919.....	356	79	435
1920.....	358	86	444
1921.....	354	104	458
1922.....	349	108	457
1923.....	349	106	455
1924.....	347	101	448
1925.....	341	91	432
1926.....	315	80	395
1927.....	287	68	355
1928.....	270	58	328
1929.....	265	46	311
1930.....	241	36	277

Total resources.—Of the 526 millions of member-bank resources at the close of 1919, state banks contributed 110 and national banks 416 millions. Total resources declined 25 millions in 1920, and 15 millions in 1921, a further decrease in 1920 being prevented by the net increase of 4 millions in the assets of state members, the result, at least in part, of an increase of 21 in state-bank membership.

The increase of 31 millions in national-bank and of 25 millions in state-bank assets during 1922-24 was followed by a continual decline in member-bank resources. From the close of 1924 until the middle of 1928 the decrease was 14.8 per cent, as compared with the 9 per cent net loss for the 1919-28 period. Inasmuch as the number of member banks declined 24.6 per cent during the same 9-year period, the conclusion is that the loss in membership was mainly among the smaller banks. In

spite of the heavy decline in state-bank membership, there was a net gain in total resources of state banks during the period. This indicates that state banks were increasing in size, and suggests that the group included the stronger and more successful

TABLE IV
TOTAL RESOURCES OF IOWA MEMBER BANKS, 1919-30
(ooo Omitted)

June 30	National	State	Total
1919.....	\$414,922	\$ 97,557	\$512,479
1920.....	430,006	112,896	542,902
1921.....	352,909	110,302	463,211
1922.....	364,328	118,609	482,937
1923.....	399,203	129,413	528,616
1924.....	388,969	134,325	523,294
1925.....	402,289	127,497	529,786
1926.....	383,216	120,198	503,414
1927.....	362,755	106,710	469,465
1928.....	360,208	105,934	466,142
1929.....	365,989	95,656	461,645
1930.....	342,920	86,525	429,445

TABLE V
TOTAL RESOURCES OF IOWA BANKS
(ooo Omitted)

JUNE 30	MEMBER BANKS			ALL BANKS		
	State	National	Total	State	National	Total
1919.....	\$97,557	\$414,922	\$512,479	\$696,565	\$414,922	\$1,111,487
1930.....	86,525	342,920	429,445	605,796	342,920	948,716

of the state institutions. To these banks membership in the System was an aid to expanding operations.

The foregoing conclusions are reinforced by a comparison of the changes in the resources of member banks with the changes in the resources of all banks in the state; see Table V. The decrease in total resources of state member banks corresponded closely to the decrease in resources of all state-chartered insti-

tutions, indicating that the representative state member bank was experiencing the same changes as the representative state bank. National banks, however, suffered a greater relative decline in total resources.

Capital investment.—The changes in aggregate capital stock of member banks correspond closely to the changes in membership. Thus, during the year ending June 30, 1919, the changes were slight, while in the following year an increase of 14 in the

TABLE VI
CAPITAL STOCK—IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	National	State	Total
1919.....	\$25,130	\$7,136	\$32,266
1920.....	26,345	7,926	34,271
1921.....	26,425	8,946	35,371
1922.....	26,025	9,171	35,196
1923.....	26,758	9,421	36,179
1924.....	26,417	9,771	36,188
1925.....	26,520	8,691	35,211
1926.....	25,635	7,836	33,471
1927.....	24,065	6,791	30,856
1928.....	23,055	6,716	29,771
1929.....	23,080	5,926	29,006
1930.....	21,470	5,261	26,731

number of banks was accompanied by a \$2,005,000 increase in capital stock. The small number of changes in the list of member banks during 1921 and 1922 is reflected in correspondingly slight variations in the capital-stock item. During 1923 and 1924, however, the relationship between number of banks and capital stock disappeared. A net decline of 9 in membership was accompanied by a net gain of \$992,000 in the capital stock of member banks.

Until the close of 1924 the depression in agriculture was reflected only in the failure of the capital-stock item to show the normal increase during 1921 and 1922 and in the moderate gains of 1923 and 1924. In terms of number and capital stock

of member banks the Federal Reserve System in Iowa was stronger in December, 1923, than at any previous date. The unimportant changes of 1924 were followed in 1925 by a different tendency. For the first time bank failures began to cut heavily into the membership, and for two and one-half years the number and aggregate capital stock of member banks declined rapidly. On June 30, 1927, Iowa had 355 member banks with capital stock totaling \$30,856,000. Thus, in the two years the System had lost 77 banks and suffered a decline of \$4,355,000 in the capital stock of member institutions. Though the rate of decrease slackened somewhat in 1928 and 1929, the decline in membership continued. On June 30, 1930, there were 277 member banks in Iowa, with capital stock aggregating \$26,731,000.

Inasmuch as surplus is more sensitive than capital stock to fluctuations in banking activity, the variations in the Iowa banking situation are more quickly reflected in the changes in this item. The rapid increase in the total surplus of member banks during 1919 and early 1920 was the result of large earnings during a period of unusual business activity. The peak for the 1919-30 period was reached, June 30, 1921, with a total of \$20,187,000. The low earnings and losses on loan accounts during the following years produced a steady diminution in surplus, the total falling to \$12,778,000 on June 30, 1930.

As would be expected in a period of unfavorable operating conditions, the course of the undivided-profits item was quite irregular. The total of \$11,844,000 at the peak, December, 1920, reflects the large earnings of the preceding period. A year later the figure was \$7,268,000. Though the general trend was downward, the decline was more gradual after 1922. The smaller relative decline in undivided profits than in capital stock and surplus since 1924 suggests that the banks have been following a more conservative policy in the distribution of earnings. Thus, from December, 1924, to June, 1928, the capital stock

of member banks decreased 17.4 per cent and undivided profits only 4.9 per cent. If, however, a similar comparison were made for 1928 and 1920, the result would be favorable to 1920. The large earnings of 1920 which had not yet been distributed at the date of the report in December, explain the unusually large amount for that year. Hence the 1920 figure does not represent a permanent policy of the banks, as compared to the trend evidenced in recent years for which the 1928 figure may be taken as typical.

The struggle of Iowa banks against the forces of depression appears in the foregoing record. Declining Federal Reserve membership, due to bank failures and consolidations, produced a regular decrease in the capital investment of member banks after 1922. The greater relative decline in the combined surplus and undivided-profits items than in capital stock indicates that the net-worth position of member banks was weaker in 1928 than in 1922. Thus banks still in operation, as well as those that had been forced to close, had suffered from losses on loan accounts in a period of low earnings.

Capital investment in member and non-member banks.—The decline in total capital investment of Iowa member banks in recent years resulted from the sharp decrease in the number of member banks. It is important to determine whether the System lost relatively, as well as absolutely, in banking power during this period. The data upon which the answer to this point must be based are given in Table VII.

In 1928 the Federal Reserve System included in its membership 1.2 per cent less of the total banks in the state, and 1.5 per cent less of the capital investment of all banks than in 1919. Though the result is only slightly unfavorable to the member banks, it would be more unfavorable if the comparison were made between June, 1928, and a date such as December, 1920, near the peak of operations.

The volume of bank operations as reflected in total resources

shows that member banks, though decreasing more rapidly in numbers and capital investment, were expanding relatively more rapidly than all banks. Inasmuch as the capital investment of this group was declining, it is clear that the non-net-worth items (liabilities less capital investment) were increasing. Deposits constitute the major item of this class. It must be concluded, therefore, that the member banks were more successful in competition for deposits than the non-member

TABLE VII
RELATION OF MEMBER BANKS TO ALL BANKS IN IOWA

	June 30, 1919	June 30, 1928
Number of all banks.....	1,676	1,326
Number of member banks.....	435	328
Percentage of member banks.....	25.9	24.7
Capital investment, all banks*.....	\$ 125,415	\$ 111,955
Capital investment, member banks*.....	\$ 57,224	\$ 49,432
Percentage of member banks.....	45.6	44.1
Resources, all banks.....	\$1,111,487	\$1,003,281
Resources, member banks.....	\$ 512,479	\$ 466,142
Percentage of member banks.....	46.1	46.4

* 000 omitted.

group.¹ It should be emphasized that the comparison on the basis of the foregoing items is not complete and that a final conclusion is not possible until the other important items are considered.

Cash in vault.—Inasmuch as the ability of the bank to meet promptly the demands of its customers depends upon its cash position, cash in vault is a significant item. Its position must

¹ Logically, such an increase might result from an increase in member-bank borrowings. However, borrowings from the Federal Reserve decreased from \$58,723,000, June 30, 1920, to \$1,873,000, June 30, 1928. While the figures for total loans of member banks from correspondent banks are not available, it may safely be assumed that the increase here was not equal to the decrease in borrowings at the Reserve Bank. All of the available evidence points to a decrease in borrowings at correspondent banks. A net increase in total member-bank borrowings from all sources would indicate a greater expansion in liabilities than is suggested by Table VII.

thus be viewed in terms of the amount of cash in its vault, as well as in terms of the more fundamental factors in its condition.

In spite of large fluctuations in the cash-in-vault item, the net change for the period was slight. Thus approximately the same volume of cash was divided among 158 fewer banks at the close than at the beginning of the period. The relatively large volume of cash carried by the banks during a period of numer-

TABLE VIII
CASH IN VAULT—IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	National	State	Total
1919.....	\$7,106	\$1,483	\$ 8,589
1920.....	7,272	1,830	9,111
1921.....	6,408	1,891	8,299
1922.....	6,139	1,769	7,906
1923.....	5,964	1,607	7,571
1924.....	7,826	2,324	10,150
1925.....	7,824	2,326	10,150
1926.....	7,816	2,222	10,038
1927.....	7,898	1,999	9,897
1928.....	6,790	1,703	8,493
1929.....	6,723	1,463	8,186
1930.....	6,646	1,274	7,920

ous bank failures suggests that a liberal cash reserve provided needed protection at a time when public confidence in banks was badly shaken and when a run might easily develop.

Deposits. The total of all kinds of deposits in Iowa member banks, as would be expected from changes in general business conditions, shows wide variations in recent years. The rapid increase in 1919 was followed in 1920 and 1921 by a sharp reduction, reaching a low point at the end of the latter year. The three years of 1922, 1923, and 1924 were marked by a sharp increase to the peak for the period at the end of 1924. Following the small changes in the total volume in 1925, a rapid decrease occurred in 1926, after which the course of deposits was marked

by increasing stability. From the total of \$322,594,000 on June 30, 1919, to the low point of \$297,432,000 on December 31, 1921, the decline was 7.7 per cent. Recovery, however, was rapid, especially during the next year and a half; and on December 31, 1924, the total had reached \$376,507,000, the largest amount during the 1919-30 period.¹ The large number of bank failures during and after 1925 is reflected in the loss of deposits. By December 31, 1926, the total had declined to \$343,209,000. After this date the fluctuations were smaller, the total amount on June 30, 1930, being \$325,589,000. No significant difference in the trend of deposits appeared between national and state member banks. The former, having much the larger volume, determined mainly the course of the total for member banks. The same tendency, however, existed among the state members.

Deposits in member and all banks compared.—The decline in total deposits of all authorized Iowa banks placed a premium upon the ability of the individual bank to attract deposits. Success in the struggle meant the capacity to expand loans and increase earnings. Failure meant a shrinking volume of deposits, contraction of loans, lower earnings, and probable insolvency. Banks generally were finding it impossible to collect many loans made prior to 1921. Losses on account of bad loans could be absorbed only out of earnings. Hence, not merely dividends to stockholders but the solvency of the bank itself was contingent upon success in the competitive struggle for deposits. The record of this struggle as between state and national banks and between member and all chartered banks appears in Table IX.

State and national bank groups were approximately equally successful in this struggle, national banks with 30 per cent in 1919 and 31.5 per cent in 1928 of total bank deposits increasing

¹ The peak of demand deposits was reached earlier. The call report for May 5, 1920, gives the amount of this item as \$198,174,000.

their competitive position slightly. The slightly greater rate of failure among the state-chartered institutions is not significant. Survival in the fight was a matter of the individual bank's policies, the source of its charter being a matter of little importance.

As between member banks and all chartered Iowa banks, the results of the competition for deposits were quite unequal. In

TABLE IX
TOTAL DEPOSITS OF IOWA BANKS
(ooo Omitted)

June 30	State*	National†	All Banks	Member Banks‡	Percentage of Member Bank of Total Deposits
1919.....	\$599,849	\$258,277	\$858,156	\$322,594	37.5
1920.....	657,886	264,132	922,018	355,403	38.5
1921.....	549,310	256,421	805,731	302,833	37.6
1922.....	556,125	225,519	781,664	311,146	39.8
1923.....	637,205	259,752	896,957	354,678	39.5
1924.....	605,937	258,686	864,623	361,185	41.7
1925.....	603,223	270,939	874,162	369,955	42.3
1926.....	590,921	262,711	853,632	359,286	42.2
1927.....	559,916	256,546	816,462	343,477	42.7
1928.....	503,542	260,148	823,690	365,866	44.4
1929.....	552,554	266,316	818,870	342,572	41.8
1930.....	528,148	252,741	780,889	325,589	41.7

* Compiled from reports of Iowa superintendent of banking.

† Compiled from reports of the controller.

‡ Compiled from member-bank call reports.

1919, member-bank deposits constituted 37.5 per cent of total deposits; in 1928, 44.4 per cent. Thus the member banks greatly strengthened their competitive position as against non-member banks. However, it has already been observed that there were no important changes in the relative position of state and national banks with reference to volume of deposits. Since the national banks constituted a large majority of the Federal Reserve Bank membership, it follows that the increased percentage of member-bank deposits to deposits of all banks was due to increased deposits in the state-member group.

This is the most significant characteristic in the struggle for deposits. With all banks fighting for deposits in order to live, the only group which was conspicuously successful was the state bank members. It does not follow, however, that the success of the state banks was due directly to their membership in the System. The tendency for member banks to be located in the larger centers where they were less affected by the agricultural depression may have been a factor in the better showing of this group. It seems probable that the more aggressive and forward-looking banks welcomed Federal Reserve affiliation as a means of building good will for the bank. A qualification to the foregoing conclusion is found in the inability of many banks to meet the requirements for membership. Whatever advantages membership in the System gave in the struggle for deposits were denied to the smaller banks. Inasmuch as national banks as a group (all member banks) have a record corresponding closely to state banks as a group (chiefly non-members), it would seem that Federal Reserve membership as such did not carry important advantages in this respect.

Classes of deposits.—The course of deposits may be further examined with reference to the different classes. Though considerable fluctuations in the item "United States deposits" occurred, these were at all times relatively unimportant. On June 30, 1919, this class of deposits amounted to \$2,458,000 and constituted only a fraction (0.76) of 1 per cent of the total. This was the maximum amount for the period. On June 30, 1930, the total was only \$564,000. This item may, therefore, be disregarded.

Changes of a similar sort, though not of the same degree, occurred in demand and time deposits. The depression of 1920-21 was reflected in a sharp decline in deposits, the increase in demand deposits being the more rapid. Representing the depositor's immediate means for meeting his obligations, as well as his first line of reserve, they are the first to be with-

drawn. The greater prominence of the savings feature in time deposits renders this class less responsive to changes in the business cycle. (See Table X.)

Significant changes occurred in the relative amounts of the two classes of deposits. On June 30, 1919, demand deposits were 12.4 per cent larger than time deposits. At the end of 1920, after the decrease in demand deposits had begun, the two were approximately equal. The quick decline in demand deposits after this date sent the total definitely below that of time deposits. At the close of 1921 the latter were 16.9 per cent higher. The recovery in 1922 was marked by relatively equal

TABLE X
TIME AND DEMAND DEPOSITS—IOWA MEMBER BANKS
(000 Omitted)

June 30	Time	Demand
1920.....	\$176,420	\$178,435
1922.....	165,860	143,412
1924.....	204,158	155,133
1926.....	192,535	165,663
1930.....	177,223	147,802

gains to both classes. In 1923, radically different trends appeared, the volume of time deposits mounting sharply while that of demand deposits continued at the 1922 level for the first half, and then declined during the second part of the year. During 1924 and 1925 the volume of time deposits remained nearly constant. Wide fluctuations, resulting in a definite net gain, characterized the course of demand deposits. The great declines in 1926 carried the total of time deposits down more rapidly. The 1930 figures point to the same tendency.

Demand deposits appeared more sensitive to fluctuations in the volume of business. The sharp recession in business in 1920 and 1921 was at once reflected in a fall in demand deposits. The low point in time deposits was not reached until 1922,

twelve months after the low point in demand deposits. Recovery in 1922 was accompanied by equal gains in the two classes. Neither class of deposits, however, bears any relationship to the number of banks, to their total capital investment, or to their total resources. The conclusion is that the volume of deposits was determined largely by factors outside the banking field. To the banks the factor of primary concern was the question of which banks would be able to obtain control of the de-

TABLE XI
TIME DEPOSITS—IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	National	State	Total	County— National
1919.....	\$105,095	\$45,610	\$150,705	\$ 92,405
1920.....	121,409	55,011	176,420	105,751
1921.....	108,115	56,490	164,605	91,666
1922.....	108,469	57,391	165,860	91,518
1923.....	130,126	64,395	194,521	108,621
1924.....	133,991	70,167	204,158	111,282
1925.....	137,251	67,567	204,818	112,581
1926.....	128,414	64,121	192,535	104,151
1927.....	123,078	59,120	181,712	95,332
1928.....	128,382	56,982	185,364	*
1929.....	130,330	51,666	181,996	.....
1930.....	128,853	48,370	177,223	.....

* Not reported separately after this date.

posits. Banks became more aggressive in the struggle for an increasing share of the shrinking total.

The two forms of deposits may also be considered with respect to the classes of banks holding them. Table XI indicates that the trends for state and national banks were, in general, the same. However, a striking difference appeared in the latter half of 1920 and in 1921. While time deposits of national banks were decreasing rapidly, those of state member banks increased slightly. A partial explanation for this difference would seem to lie in the larger size and the location, in larger centers, of state member banks. Presumably these banks carried a smaller

percentage of deposits of farmers than the national banks. The more diversified economic activity in the larger centers gave greater stability to individual incomes as opposed to farmer incomes, which suffered disastrously with the precipitous declines in prices of agricultural products in 1920-21.

The comparison of demand deposits for national and state member banks, given in Table XII, indicates that similar

TABLE XII
DEMAND DEPOSITS—IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	National	State	Total	Country— National
1919.....	\$143,392	\$26,039	\$169,431	\$108,547
1920.....	149,437	28,998	178,435	111,900
1921.....	112,420	25,198	137,618	82,943
1922.....	115,762	27,650	143,412	84,282
1923.....	127,979	30,527	158,506	94,810
1924.....	123,748	31,835	155,133	90,005
1925.....	132,579	31,832	163,961	96,223
1926.....	133,483	32,180	165,663	95,478
1927.....	132,205	28,153	160,358	89,973
1928.....	131,766	30,015	161,771	*
1929.....	134,577	25,566	160,143	.....
1930.....	123,888	23,914	147,802	.....

* Not reported separately after this date.

changes occurred in the two groups of banks. An exception to this tendency appeared in 1920-21, when the decline was greater among the national than among the state member banks. During these two years the decrease in demand deposits of national banks was 28.4 per cent, as compared to the 12.2 per cent loss of the state members. This tendency for demand deposits of national banks to decline more rapidly is similar to that observed in connection with time deposits. The explanation suggested there will be reinforced by a more detailed examination of the national banks.¹

¹ Since reports of state member banks do not distinguish between reserve city and country banks, it is not possible to make a similar comparison of this group.

In 1919 Iowa had four reserve cities with a total of 14 reserve city banks.¹ The remaining national banks (342 at this date), comprise the class of "country" banks in the controller's reports. While large national banks are found in such centers as Davenport, Waterloo, and Burlington, the average size of the country banks is definitely below that of the reserve city banks.² The trend of demand deposits of the reserve city banks should indicate whether the tendencies among this group of larger banks corresponds to those of the state member banks. This comparison should furnish evidence as to whether any correlation exists between the size of the bank and its location in a large community, and the loss of deposits in 1920 and 1921.

While the demand deposits of country national banks decreased from \$120,107,000 to \$81,284,000 during the two years ending December 31, 1921, those of reserve city national banks declined from \$35,888,000 to \$29,362,000. Thus the decline for country banks was 32.3 per cent, and for reserve city banks 18.2 per cent. These results fortify the conclusion that the greatest loss in both time and demand deposits in 1920-21 occurred among the smaller banks and in the smaller communities. The fact that state member banks were the larger institutions and located in the larger centers was therefore one factor in the better showing of this group.

Member-bank reserves.—Member-bank operations are further reflected in the balances carried with the Reserve Bank. Inasmuch as a dollar of credit on the books of the Federal Reserve Bank will sustain from 12 to 16 dollars of credit on the books of member banks, an increase in the reserve balances

¹ Cedar Rapids, 2; Des Moines, 3; Dubuque, 3; Sioux City, 6. This number was reduced to 13 after December 31, 1921 (by a decrease from 6 to 5 in Sioux City), and to 12 after May 3, 1923 (by a decrease from 3 to 2 in Dubuque).

² Since the country national banks constitute a large proportion of total national bank resources, the curve of deposits for this group, accordingly, corresponds closely to the deposits curve for all national banks.

means a much more rapid expansion of member-bank lending power.¹

Assuming a constant ratio between time and demand deposits, and also between the deposits of reserve city and country banks, the amount of the reserve balances of member banks with the Federal Reserve Bank varies directly with total deposits. Though these ratios are not constant, they are suffi-

TABLE XIII

IOWA MEMBER-BANK RESERVES CARRIED WITH RESERVE BANK, 1919-30
(ooo Omitted)

June 30	National	State	Total	Country— National
1919.....	\$20,904	\$3,875	\$24,779	\$12,172
1920.....	18,622	3,857	22,479	12,452
1921.....	15,150	3,706	18,856	10,011
1922.....	15,691	3,832	19,523	9,792
1923.....	17,978	4,588	22,566	11,110
1924.....	16,597	4,696	21,293	10,803
1925.....	17,354	4,521	21,875	10,978
1926.....	18,211	4,583	22,794	11,073
1927.....	17,329	3,702	21,031	9,923
1928.....	17,483	3,986	21,469	*
1929.....	17,563	4,129	21,692	.....
1930.....	15,129	2,733	17,862	.....

* Not reported separately after this date.

ciently so that corresponding variations may be expected in the curves of member-bank deposits and reserve balances. This is indicated by a comparison of member-bank reserves with time and demand deposits.²

On June 30, 1919, the reserves carried by member banks with the Federal Reserve totaled \$24,779,000. The low point

¹ Theoretically, one dollar on the books of the Federal Reserve Bank will sustain ten dollars of credit on the books of the member banks. This applies to the average of the reserves 7, 10, and 13 per cent required against deposits in banks in various locations. However, the absence of 13 per cent banks in Iowa increases the average ratio. In 1918 the ratio of total reserve balances to combined time and demand deposits was 12.8; in 1928, 15.9.

² The comparison is based upon the data in Tables XI, XII, and XIII.

for the period, \$16,895,000, was reached December 31, 1920. This was one year earlier than the low point for deposits. Steady gains in this item occurred in 1921, 1922, and the first half of 1923. From June, 1923, until June, 1927, there were wide fluctuations, but the net change in the total during the period was negligible. Though the curve of total deposits was more uniform, the general trend was similar to the curve of member-bank reserve balances. The conclusion is, therefore,

TABLE XIV

LOANS AND DISCOUNTS—IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	National	State	Total	Country— National
1919.....	\$228,688	\$64,262	\$292,950	\$171,017
1920.....	275,636	93,381	369,017	206,007
1921.....	234,688	96,064	330,752	176,376
1922.....	243,910	91,874	335,784	187,054
1923.....	253,629	99,624	353,253	191,523
1924.....	247,806	99,834	347,640	189,170
1925.....	236,729	90,286	327,015	173,902
1926.....	212,930	82,054	294,984	155,214
1927.....	191,008	68,506	259,514	132,545
1928.....	182,386	68,008	250,394	*
1929.....	184,597	63,183	247,780	.....
1930.....	170,892	56,129	227,021	.....

* Not reported separately after this date.

that there was no important change in the relationship of member-bank reserves to member-bank deposits.

Loans and discounts.—The outstanding changes in total loans and discounts of member banks fall in three periods. During the first, which extended through 1919 and the first half of 1920, the increase was rapid. Following this, there was a period of three years during which wide fluctuations were common. The third stage, extending from 1924 to 1930, was characterized by a steady decrease in the volume of loans.

Table XIV provides the data for a more detailed review of the credit extensions of member banks. The rapid increase

during the year ending June 30, 1920, exceeded 20 per cent. A year later the total had decreased 10.4 per cent, to \$330,752,000. The recovery during the first half of 1921 was followed by a decline of about equal proportions in the first six months of 1922. Increases occurred in 1923. Beginning in 1924, however, a steady decline in the loans and discounts began. On June 30, 1928, the total had sunk to \$250,394,000—

TABLE XV
COMPARISON OF DEPOSITS, LOANS AND DISCOUNTS, AND TOTAL
RESOURCES—IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	Total Deposits	Loans and Discounts	Total Resources
1919.....	\$322,594	\$292,950	\$512,479
1920.....	355,463	369,017	542,902
1921.....	302,833	330,750	463,211
1922.....	311,146	335,784	482,937
1923.....	354,678	353,253	528,616
1924.....	361,185	347,640	523,294
1925.....	369,955	327,015	529,786
1926.....	359,286	294,984	503,414
1927.....	343,477	259,514	469,465
1928.....	365,866	250,394	466,142
1929.....	342,572	247,780	461,645
1930.....	325,589	227,021	429,445

28 per cent below the figure for 1924 and 14 per cent less than the 1919 total.

Thus the credit advanced by Iowa member banks has been greatly reduced since 1923. The significance of this trend is better understood by a comparison of loans with total member-bank resources. (See Table XV.)

The relative changes in loans, resources, and combined deposits during the critical period from 1923 to 1927 are briefly indicated in Table XVI. The reduction in loans was 27.6 per cent, as compared to an 11.2 per cent decrease in total member-bank resources and a 4.8 per cent decline in total deposits. These figures point to an increasingly conservative policy of

credit extension. Though the number of banks during these years fell from 453 to 355, the demand for bank credit was presumably independent of the number of banks, and hence not directly affected by the bank failures. So far, of course, as the reduction in the number of banks was the result of withdrawals from the System and continued operation outside of it, the demand for member-bank credit would tend to be reduced.

However, losses in membership indirectly influenced credit extension in two ways. The rate of failure was higher among the liberal lenders.¹ Those banks which had made loans the most freely suffered the most. Furthermore, their elimination

TABLE XVI
IOWA MEMBER BANKS, 1923-27
(000 Omitted)

	December 31, 1923	June 30, 1927	Decrease	Percentage of Decrease
Loans.....	\$358,832	\$259,814	\$99,018	27.6
Resources.....	528,616	469,465	59,151	11.2
Deposits.....	360,909	343,477	17,432	4.8

tended to lower the average volume of credit extended per bank. In the second place, widespread failures made for greater caution on the part of the remaining banks. The increasing tendency to avoid the greater risks resulted in more careful examination of loan applications. Then, entirely apart from the question of failures, a more conservative loan policy has developed. This is a common impression among those in touch with the banking situation. There has been an increasing emphasis upon sound banking methods and upon efficiency in bank operation. Though the foregoing data do not furnish evidence as to whether loans, as such, are being examined more carefully, they indicate that the aggregate of loans has been steadily reduced, and also that loans are smaller, relative to

¹ See chapter v on "Representative Member Banks."

deposits and total resources.¹ Assuming the operation of profit motives, it is reasonable to conclude that it is the least desirable loans that have been refused, and hence that credit standards have been raised.

In opposition to the foregoing conclusion is the assumption that the explanation for the lower volume of loans lies in a decrease in the demand for bank credit after 1923. Without undertaking an exact quantitative measurement of the demand for bank credit, it may be suggested that such an explanation does not fit the general business changes during the period. Business activity increased steadily. This is indicated by a composite index of the trend of business in Iowa which gives the average index per year as follows: 1923, 102.8; 1924, 98.3; 1925, 105.0; 1926, 110.7; 1927, 110.4.² Moreover, bank clearings in Iowa also had an upward trend during the period.³ These changes point to an increased demand for bank credit. If it may be assumed that the supply of non-member bank credit in Iowa and of bank credit supplied from outside the state did not change relative to the total supply of bank credit available to Iowa businesses, it follows that an increase occurred in the demand for member-bank credit. Thus the great reduction in the volume of loans suggests that member banks had adopted more conservative lending policies.

Investments.—The trend in the investments of member banks does not correspond to the foregoing items. During the three years to June 30, 1922, the total decreased rapidly. The fol-

¹ A factor in the decrease of loans was the increase in investments. This item increased from \$71,823,000 on December 31, 1923, to \$98,015,000 on June 30, 1927. This gain compares with the \$99,318,000 decrease in loans during the same period. While this reflects a policy of building up a reserve and of more diversification in the use of the banks' funds which would require a reduction in the credit extended in the form of loans, it is not a complete explanation for the decrease in the volume of loans.

² See G. R. Davies and G. W. Mitchell, *Business Activity in Iowa* ("Iowa Studies in Business," No. 4), p. 37.

³ *Ibid.*, p. 7.

lowing six-year period was marked by a rapid increase. (See Table XVII.) The foregoing trends were accompanied by changes in the character of the investment holdings. The sharp decline during the 1919-22 period was the result of sales of United States securities, consisting chiefly of Liberty bonds. These bonds, acquired by the banks during and immediately following the war, were purchased for patriotic reasons, or accepted from customers in payment of loans. They were not

TABLE XVII

INVESTMENTS OF IOWA MEMBER BANKS, 1919-30
(000 Omitted)

June 30	United States Securities	Other Securities	Total
1919.....	\$86,887	\$15,783	\$102,670
1920.....	68,074	17,210	85,284
1921.....	49,502	19,139	68,641
1922.....	37,291	20,277	57,568
1923.....	49,594	25,676	75,270
1924.....	39,722	28,601	68,323
1925.....	48,829	40,633	89,462
1926.....	42,890	49,636	92,526
1927.....	41,455	56,560	98,015
1928.....	41,136	67,880	109,016
1929.....	45,604	68,901	114,505
1930.....	34,931	70,612	105,543

acquired specifically for use as secondary reserves and do not represent an administrative policy on the part of the banks.

Except for important fluctuations in 1923 and 1925, the total amount of United States securities held by member banks remained nearly constant after 1922. The "other"-securities item shows an entirely different trend. Its course was steadily upward, though at an accelerated speed during the latter half of the period. The increase in this item reflects a more definite policy with respect to investments, indicating increasing attention to the matter of a secondary reserve and to more diversification in the credit extended by the banks. (See Table XVIII.)

During the 1919-28 period United States securities holdings decreased 52.6 per cent and "other"-securities holdings increased 297.4 per cent. The net increase in total investments, however, was only 4.8 per cent. The significance of the change is, nevertheless, far-reaching. While the holdings at the beginning of the period represented an emergency situation, those at the close reflected an established policy with respect to the investments of member banks.

TABLE XVIII
INVESTMENTS OF MEMBER BANKS
(000 Omitted)

Securities	June 30, 1919	June 30, 1922	June 30, 1923	June 30, 1928	1919-28 Increase
United States.....	\$ 86,887	\$37,291	\$48,829	\$ 41,136	\$45,751*
Other.....	17,079	20,690	40,633	67,880	50,801
Total.....	\$103,966	\$57,981	\$89,462	\$109,016	\$ 5,050

* Decrease.

Conclusion.—The foregoing review of member-bank operations reinforces the conclusion that the 1921-30 period was one of aggressive competition for deposits. Heavy losses upon loan accounts during these years placed a premium upon earnings. Earnings depended upon an adequate volume of good loans; and lending power, in turn, was based upon deposits. Thus escape from insolvency for many institutions was in an expanding volume of deposit accounts.

The striking changes which occurred during the 1919-30 period are indicated by Table XIX. More than one-third of the member banks disappeared, mainly because of failure. The decrease in number was not accompanied by a corresponding decrease in resources, deposits, and the other items. Except for the relatively small gains in deposits and investments, however, all of the items point to a declining volume of member-bank operations. Thus, resistance to a diminution in its own volume

of business became a primary consideration in individual bank policy.

In the struggle for deposits, member banks, as a group, were more successful than the non-members. The deposits of all state banks were 11.9 per cent smaller in 1930 than in 1919, as compared with the 0.9 per cent gain in member-bank deposits. This better showing of the latter group was due largely to the state member banks—aggressive policies, the prestige of Federal Reserve membership, and especially location in the larger

TABLE XIX
IOWA MEMBER BANKS, 1919-30

	June 30, 1919	June 30, 1930	Percentage Decrease
Number of banks.....	435	277	36.3
Capital investment.....	\$ 57,224,000	\$ 44,673,000	21.9
Total resources.....	512,479,000	429,445,000	16.2
Cash in vault.....	8,589,000	7,920,000	7.8
Deposits.....	322,594,000	325,589,000	0.9*
Reserves (with Reserve Bank)...	24,779,000	17,862,000	27.9
Loans.....	292,950,000	227,021,000	22.5
Investments.....	102,670,000	105,543,000	2.8*
National bank notes.....	18,851,000	12,638,000	32.9

* Increase.

centers where the shrinkage of deposits was less, being important factors.

During the 1919-30 period the percentage of member to total Iowa banks decreased 3.2 per cent, while the proportion of bank resources held by member banks decreased 0.8 per cent. Deposits of member institutions, however, increased from 37.5 per cent of total bank deposits in 1919 to 41.7 per cent in 1930. These changes reflect a slight relative increase in Federal Reserve control of banking policies. The outcome of long years of struggle was greater concentration of banking resources in the hands of stronger institutions and the disappearance of many weaker banks. The tendency toward fewer and larger banking units was more marked among the member banks.

CHAPTER III

MEMBER-BANK BORROWINGS

Within the general limits defined by the Federal Reserve Act, and by the rulings of the Federal Reserve Board, the Reserve Bank is permitted to use discretionary powers in its dealings with member banks, considering applications for rediscounts and determining the eligibility and desirability of the paper offered. In addition to rediscounts the Reserve Bank may make direct advances to the member banks, for periods not exceeding fifteen days, on the promissory notes of the latter. These notes are secured either by paper that is eligible for rediscount or purchase by the Federal Reserve Bank, or by the deposit or pledge of bonds or notes of the United States government. As with rediscounts, the Reserve Bank has discretionary power in the making of direct advances.

Thus, rediscounts and direct advances reflect the credit policy of the Federal Reserve with respect to the demands of member banks, and constitute the most important phase of Reserve Bank relations with member banks. In this chapter the course of these relations will be traced from 1920 to 1928. In order to indicate the relative importance of Reserve advances to member banks, borrowings by the latter from other sources will also be indicated and compared with the amount of credit obtained from the Federal Reserve.

In the call reports of member banks the item "notes and bills rediscounted" is composed of rediscounts with the Federal Reserve, with national banks, with state banks, with the War Finance Corporation, with other than banks and the War Finance Corporation, and of miscellaneous rediscounts not included in any of the foregoing classes. The relative importance

of each class may be indicated by comparing the amounts for a given date. For this purpose June 30, 1923, may be taken as typical, the figures for which are given in Table XX.

An examination of the table indicates that rediscounts with the Federal Reserve constituted over 90 per cent of the total rediscounts of member banks. Rediscounts with state and national banks were made by the country banks, but were relatively unimportant. The state member banks also rediscounted with the War Finance Corporation. Though this item was

TABLE XX
REDISCOUNTS OF MEMBER BANKS, JUNE 30, 1923*
(ooo Omitted)

Group Banks	With Federal Reserve	National Banks	State Banks	Other	War Finance Corpo- ration	Miscel- laneous	Total
Country.....	\$ 7,661	\$263	\$16	\$105			\$ 8,045
Cedar Rapids.....	450						450
Des Moines.....							
Dubuque.....							
Sioux City.....							
All national.....	8,111	263	16	105			8,495
State.....	5,481				\$136	\$841	6,318
All member banks	13,592	263	16	105	136	841	14,813

* The data in this and following tables are from the member-bank call reports.

never large, it was a regular one in the reports from 1922 to 1925, while the Corporation was extending aid to agriculture. At rare intervals country national banks also had rediscounts with this institution. Apparently, however, it was not used by the reserve city banks. It will be noted further that at the foregoing date none of the national banks in the reserve cities of Des Moines, Dubuque, and Sioux City were rediscounting with the Federal Reserve. These banks rediscounted regularly during 1920 and 1921. For the period after 1921 the preceding statement is fairly typical with respect to rediscounting by reserve city banks.

The obligations of member banks in the form of bills payable may be indicated in the same manner, again taking the report of June 30, 1923, as typical. (See Table XXI.) Dealings with the Federal Reserve are relatively less important with respect to bills payable than to rediscounts. This class of member-bank borrowings was, however, mainly with the Federal Reserve, the item "bills payable with the Federal Reserve" exceeding the total from all other sources.

TABLE XXI
BILLS PAYABLE OF MEMBER BANKS, JUNE 30, 1923
(000 Omitted)

Group Banks	With National Banks	Certificates of Deposit with National Banks	With State Banks	Certificates of Deposit with State Banks	Federal Reserve	Other	War Finance Corporation	Miscellaneous	Total
Country.....	\$ 426	\$83	\$28	\$103	\$ 733	\$43	\$333	.....	\$1,749
Cedar Rapids.....	600	.....	.....	.....	600	.....	.....	.....	1,500
Des Moines.....	.....	.....	.....	.....	1,062	.....	.....	.....	1,062
Dubuque.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sioux City.....	.....	.....	.....	.....	385	.....	.....	.....	385
All national.....	1,026	83	28	103	3,080	43	333	.....	4,696
State.....	.....	.....	.....	.....	680	.....	302	\$445	1,427
All members.....	1,026	83	28	103	3,760	43	635	445	6,123

The foregoing tables indicate that total rediscounts, total bills payable, and the figure for each for the advances by the Federal Reserve are the most significant. Because of the relation of the War Finance Corporation to the policy of the government in advancing aid to agriculture, and hence indirectly to the Federal Reserve System, the loans by this institution to member banks should also be considered. The other groups of sub-items may, however, be omitted from further consideration in the following discussion of member-bank obligations.

The relative importance of rediscounts and bills payable, and the amounts of each at the Federal Reserve, are given in

Table XXII. Notes and bills rediscounted constituted a more important form of borrowing by member banks from the Federal Reserve than bills payable. Though the percentage of each item to total borrowings was not constant during the period, rediscounts at all dates was the main form of credit extension to member banks.

Total borrowings were large in 1920, the figure of \$120,032,000 at this date being the maximum for the period. The

TABLE XXII
BORROWINGS OF IOWA MEMBER BANKS, 1920-30
(000 Omitted)

DECEMBER 31	REDISCOUNTS		BILLS PAYABLE		BORROWINGS	
	With Federal Reserve	Total	With Federal Reserve	Total	Federal Reserve	Total
1920.....	\$65,905	\$76,404	\$28,897	\$43,628	\$94,802	\$120,032
1921.....	43,954	47,787	10,758	18,965	54,712	66,752
1922.....	26,530	27,883	4,215	8,563	30,745	36,446
1923.....	20,922	22,083	4,468	7,994	25,390	29,777
1924.....	11,127	11,551	401	1,818	11,528	13,369
1925.....	8,488	8,918	1,011	1,747	9,499	10,665
1926.....	6,946	7,635	332	923	7,278	8,558
1927.....	3,423	3,786	462	609	3,885	4,395
1928.....	1,083	1,221	390	1,674	1,392	2,895
1929.....					6,202	7,859
1930.....					2,090	2,738

total declined regularly until on December 31, 1927, it had reached the low point of \$4,395,000. The decreasing volume of member borrowings reflects a declining demand for advances by member banks. Heavy borrowings of member banks put the Federal Reserve Bank of Chicago in a strategic position to influence the credit policies of member banks. As the latter worked out of a greatly overextended condition, a constantly decreasing need for assistance made member banks increasingly independent of the Reserve Bank.

Relatively, however, the changes in proportion of borrow-

ings at the Federal Reserve to total borrowings were not important. Though borrowings were reduced, there was no discrimination as between Federal Reserve and other creditors. For member banks the Federal Reserve was the main source of credit throughout the period. Of total rediscounts of \$76,-404,000 in 1920, \$65,905,000 were made with the Federal Reserve Bank of Chicago. Of the total of \$3,786,000 in 1927,

TABLE XXIII
NOTES AND BILLS REDISCOUNTED BY IOWA
MEMBER BANKS, 1920-28
(000 Omitted)

Date	With Reserve Bank	Total
1920, June 30.....	.....	\$43,203
Dec. 29.....	\$65,905	76,404
1921, June 30.....	50,191	56,146
Dec. 31.....	43,954	47,787
1922, June 30.....	17,513	21,766
Dec. 29.....	26,530	27,883
1923, June 30.....	13,592	14,813
Dec. 31.....	20,922	22,083
1924, June 30.....	18,281	18,920
Dec. 31.....	11,127	11,551
1925, June 30.....	8,702	9,124
Dec. 31.....	8,488	8,918
1926, June 30.....	6,041	6,269
Dec. 31.....	6,949	7,635
1927, June 30.....	3,403	3,618
Dec. 31.....	3,423	3,786
1928, June 30.....	1,451	1,570

\$3,423,000 came from this institution. In the bills-payable class of borrowings the Federal Reserve was likewise the outstanding source of credit.

Table XXIII permits a closer examination of total rediscounts and rediscounts with the Federal Reserve. The difference between these items at each date includes a number of miscellaneous discounts, of which those with the War Finance Corporation and rediscounts with state and national banks are the most important.

Wide fluctuations in amount characterized rediscounts during the period. The very rapid increase in 1920 was followed by a decline, rapid at first, which was interrupted by increases in 1922 and 1923, and these were followed in turn by a steady decline to a negligible amount in 1928.

Most of these rediscounts of member banks were with the Federal Reserve. At the high point, December 31, 1920, \$65,905,000 of the total \$76,404,000 rediscounts had been made by the Federal Reserve Bank of Chicago. After 1921 the curve of rediscounts with the Federal Reserve corresponded closely to that of total rediscounts.

These figures indicate that the important advances by the Federal Reserve to Iowa banks in 1920 had declined to a negligible amount in 1927. Does this shrinking volume of advances indicate a rigid policy of credit contraction? The large number of bank failures after 1924 lends a certain plausibility to an assumption in the affirmative. The credit contraction by the other lenders to Iowa banks was equally great. If Federal Reserve policy was drastic, that of the other lenders was equally severe. It is not, however, an adequate defense of Federal Reserve policy to show that it was as liberal as that of the War Finance Corporation and of the city correspondents of Iowa banks. The latter are private institutions; and though many incurred losses on account of loans to country correspondents, they were not under obligation, legal or otherwise, to do so. The Federal Reserve System, on the other hand, has a special responsibility for the welfare of the banking system. It is important, therefore, to determine whether Iowa banks suffered from an unduly severe Federal Reserve credit policy.

Banks were failing from 1925 to 1928 because of low earnings resulting from shrinking deposits and losses on loans. During these years the Federal Reserve System might have saved many banks had it been willing to incur the necessary losses. Effective aid would have required long-term loans at very low

interest rates and perhaps ultimately the cancellation of these obligations. Such aid is not contemplated in the purpose of the System. Though the Federal Reserve Board must share the responsibility for inflation which brought ruin to large numbers of Iowa banks, the primary responsibility for sound management rests with the individual bank. The Federal Reserve did not have a responsibility for underwriting the bad loans of member institutions. If the distressed condition of the industry justified emergency relief, a government subsidy, rather than liberal credit advances from the Federal Reserve, would appear to be the more desirable remedy.

The foregoing statement does not answer the question of whether or not adequate credit was extended to member banks during the 1920-27 years. It says nothing about the amount of credit advanced to individual banks. It does, however, defend the declining volume of credit extended to member banks at a time when banks were failing and when relief was urgently demanded.

Borrowings by state and national banks.—Rediscounts may also be considered in terms of the classes of member banks accommodated. Of the total of \$43,203,000 on June 30, 1920, \$35,652,000 had been made to national banks and \$7,551,000 to state member banks. At the peak, six months later, \$62,128,000 had been advanced to national banks and \$14,278,000 to state member banks. Though the changes do not always correspond in degree, the trends for the two groups were similar throughout the period.

The small proportion of rediscounts by member banks with institutions other than the Federal Reserve is evidenced by the fact that on June 30, 1920, the latter constituted only 13.7 per cent of the total. At the same date in 1924 the figure was 3.3; and in 1928, 7.5.

During the second half of 1920 and 1921, total rediscounts decreased more rapidly than rediscounts with the Federal Re-

serve, indicating that correspondent banks and other creditors were pushing liquidation more rapidly than the Reserve Bank. Except for short intervals in the closing weeks of 1922 and 1923, rediscounts other than at the Federal Reserve were of negligible importance. During 1924-28 rediscounts were not only at a low and declining amount but were almost entirely with the Reserve Bank. Thus member banks preferred to bor-

TABLE XXIV

DISCOUNTS BY CLASSES—IOWA MEMBER BANKS, 1920-28*
(000 Omitted)

Date	State	National	Total
1920, Dec. 29.....	\$14,276	\$62,128	\$76,404
1921, June 30.....	10,924	45,222	56,146
Dec. 31.....	11,039	36,748	47,787
1922, June 30.....	6,150	15,616	21,766
Dec. 29.....	8,294	19,589	27,883
1923, June 30.....	6,318	8,495	14,813
Dec. 31.....	7,376	14,707	22,083
1924, June 30.....	5,032	13,888	18,920
Dec. 31.....	2,891	8,660	11,551
1925, June 30.....	2,279	6,845	9,124
Dec. 31.....	2,102	6,816	8,918
1926, June 30.....	1,315	4,954	6,269
Dec. 31.....	2,179	5,456	7,635
1927, June 30.....	904	2,714	3,618
Dec. 31.....	830	2,956	3,786
1928, June 30.....	363	1,207	1,570

* A change in method of reporting data makes comparison after June 30, 1928, impossible.

row for their limited credit needs from the Reserve Bank. Credit extension was not among the important services for which these institutions looked to their correspondent banks.

The data for member-bank rediscounts from correspondent banks are not available except for national banks. Inasmuch as this group constitutes the major percentage of Iowa member banks, the figures are representative. See Table XXV. Discounts with state banks were unimportant throughout the period. The tendency to increase to a high point in 1924 was not in harmony with the sharp downward trend of total dis-

counts during 1921 and 1922. Discounts with other national banks increased during 1922 and 1923 to a maximum of \$480,000 on December 31 of the latter year. At all times these were larger than the volume of discounts with state banks. The small amounts of the two classes indicate that banks in a position to borrow from correspondent banks were finding it possible to rediscount their paper with the Federal Reserve Bank on at least equally favorable terms.

TABLE XXV
DISCOUNTS BY IOWA NATIONAL BANKS WITH STATE
AND NATIONAL BANKS, 1922-28
(000 Omitted)

Date	With State Banks	With National Banks
1922, June 30.....	\$34	\$107
Dec. 29.....		299
1923, June 30.....	16	263
Dec. 31.....	56	480
1924, June 30.....	91	257
Dec. 31.....	91	140
1925, June 30.....	75	192
Dec. 31.....	69	209
1926, June 30.....	45	87
Dec. 31.....	23	119
1927, June 30.....	4	134
Dec. 31.....	26	177
1928, June 30.....	5	69

Bills payable.—On June 30, 1920, the item "bills payable" of member banks was expanding rapidly. The \$43,628,000 figure at the end of that year was the high point of the post-war period. The sharp decline which followed slackened after 1922 but continued downward, reaching a total of \$243,000 in 1928.

Reference to Table XXVI indicates that the trend of bills payable at the Federal Reserve corresponded generally to the trend of total bills payable. However, there was a tendency for an increasing percentage of the total to be held by the Federal Reserve. Thus, on December 29, 1920, bills payable at the

Federal Reserve were 66.3 per cent of the total; on June 30, 1924, 40.7 per cent; and on June 30, 1928, 37.8 per cent.

In 1922 the advances of the War Finance Corporation constituted an important part of the total. The amount on June 30 was \$2,981,000, or 42.5 per cent of the total. A year later, however, the amount had decreased to 10.3 per cent of all bills payable. This item was steadily reduced, since the aid of the Corporation to agriculture was of a temporary character, and

TABLE XXVI

BILLS PAYABLE—IOWA MEMBER BANKS, 1920-28
(000 Omitted)

Date	With War Finance Corporation	With Federal Reserve	Total
1920, Dec. 29.....		\$28,897	\$43,628
1921, June 30.....		15,643	27,830
Dec. 31.....	\$8,207	10,758	18,965
1922, June 30.....	2,981	1,881	7,014
Dec. 29.....	1,854	4,215	8,563
1923, June 30.....	635	3,760	6,123
Dec. 31.....	537	4,468	7,694
1924, June 30.....	297	1,868	4,581
Dec. 31.....	166	401	1,818
1925, June 30.....	229	1,402	2,550
Dec. 31.....	8	1,011	1,747
1926, June 30.....		442	923
Dec. 31.....		332	923
1927, June 30.....		135	135
Dec. 31.....		462	609
1928, June 30.....		92	243

after 1925 completely disappeared from the reports. The relative importance of the advances of the War Finance Corporation during the short period in which it was active, and especially during 1921 and 1922, is indicated by a comparison with the corresponding advances by the Federal Reserve.

The other sources for advances to Iowa member banks and their relative importance is suggested by Table XXVII.

On December 29, 1920, the obligations of national banks made up 81.3 per cent of bills payable, as compared with the

18.7 per cent owned by state banks. The more rapid reduction in national-bank borrowings during the following eighteen months reduced their percentage of the total to 65.2 on June 30, 1922, and is in striking contrast to the record of the state banks. In the steady decline in bills payable from this date until June, 1928, the rate of decrease was approximately uniform for the two classes of banks. At the latter date national

TABLE XXVII
BILLS PAYABLE—IOWA MEMBER BANKS, 1920-28
(000 Omitted)

Date	By State Banks	By Country National Banks	By All National Banks	By All Member Banks
1920, Dec. 29.	\$8,154	\$20,431	\$35,474	\$43,628
1921, June 30.	6,142	15,182	21,688	27,830
Dec. 31.	5,194	10,785	13,771	18,965
1922, June 30.	2,442	4,572	4,572	7,014
Dec. 29.	1,995	4,490	6,568	8,563
1923, June 30.	1,427	1,749	4,696	6,123
Dec. 31.	3,268	3,241	4,426	7,694
1924, June 30.	1,629	2,036	2,950	4,581
Dec. 31.	515	1,303	1,303	1,818
1925, June 30.	1,349	826	1,201	2,550
Dec. 31.	327	965	1,420	1,747
1926, June 30.	142	781	781	923
Dec. 31.	104	819	819	923
1927, June 30.	31	188	188	219
Dec. 31.	53	556	556	609
1928, June 30.	86	157	157	243

banks held 64.6 per cent and state banks 35.4 per cent of the total bills payable.

The experience of the country national banks presents a more detailed picture of borrowings. While the bills payable of all national banks decreased from \$35,474,000 to \$13,771,000 during 1921, those of country national banks decreased only from \$20,431,000 to \$10,785,000. And, in fact, six months later, June 30, 1922, the total was owed by the country national banks. Thus the national banks in the four reserve cities of Des Moines, Dubuque, Sioux City, and Cedar Rapids had com-

pletely liquidated their bills payable. It is this fact which makes for the better showing of the national banks. Inasmuch as state member banks on the average are larger banks and located in larger centers, it is surprising to find the national banks with the better record. In the main the country national banks have reflected most directly the depressed state of agriculture and, because of their relative importance, have determined the trend for all national banks. Here the remarkably good showing of the reserve city banks pulled the average up for all national banks. Though the reserve city institutions increased their borrowings of this type in the second half of 1922 and in 1923, after 1924 usually 100 per cent of the total of bills payable by national banks was owed by the country institutions.

Total member-bank borrowings.—The more significant characteristics of member-bank borrowings will appear if bills and notes rediscounted and bills payable are considered together rather than separately. Total borrowings should be considered also in relation to the credit advances by member banks.

Of the \$120,032,000 total credit extension to member banks at the peak, December 29, 1920, \$94,802,000 came from the Federal Reserve.¹ Borrowings declined rapidly to \$28,780,000 on June 30, 1922, of which \$19,394,000 was advanced by the Federal Reserve. A period of wide fluctuations followed which resulted in a slight net increase to \$36,446,000 and \$30,745,000, respectively, at the close of 1922. After the gradual reduction in advances to member banks during 1923, a marked change occurred in the trend of borrowings. Instead of the usual seasonal increase in this item toward the close of the year, there was a sharp reduction. The total stood at \$13,369,000 in 1924, as compared with \$29,777,000 one year earlier. This same tendency continued during the following four years, the total of member-bank borrowings being \$1,813,000 on June 30, 1928.

¹ By "peak" is meant the largest amount shown at the dates of the June and December reports, rather than the high point of daily borrowings for the year.

The foregoing figures reflect the difficulties encountered by banks in reducing their indebtedness. The increase in bank failures after 1924 coincides with the decrease in indebtedness and raises the question as to whether the charging-off of bad loans by creditors was an important factor in the reduction of

TABLE XXVIII
BORROWINGS AND LOANS OF IOWA MEMBER BANKS, 1919-28
(000 Omitted)

Date	Bills Payable	Total Rediscounts	Total Borrowings	Total Loans
1919, June 30.....				\$292,950
Dec. 29.....				330,959
1920, June 30.....				369,017
Dec. 29.....	\$43,628	\$76,404	\$120,032	350,039
1921, June 30.....	27,830	56,146	93,976	330,752
Dec. 31.....	18,965	47,787	66,752	355,776
1922, June 30.....	7,014	21,766	28,780	335,784
Dec. 29.....	8,563	27,883	36,446	346,577
1923, June 30.....	6,123	14,813	20,936	353,253
Dec. 31.....	7,694	22,083	29,777	358,832
1924, June 30.....	4,581	18,920	23,501	347,640
Dec. 31.....	1,818	11,551	13,369	334,032
1925, June 30.....	2,550	9,124	11,674	327,015
Dec. 31.....	1,747	8,918	10,665	315,368
1926, June 30.....	923	6,269	7,192	294,984
Dec. 31.....	923	7,635	8,558	270,481
1927, June 30.....	135	3,618	3,753	259,514
Dec. 31.....	609	3,786	4,395	258,026
1928, June 30.....	243	1,570	1,813	250,394
Dec. 31.....	1,674	1,221	2,895	251,725
1929, June 29.....	*	*	8,357	247,780
Dec. 31.....			7,859	243,187
1930, June 30.....			2,083	227,021
Dec. 31.....			2,738	203,886

* Not reported separately after December 31, 1928.

member-bank borrowings. Though creditors were forced to accept some losses, it is impossible to determine the amount. However, estimates by the Federal Reserve Bank of Chicago and the half-dozen leading Chicago correspondents of Iowa banks indicate that losses on account of uncollectible loans constituted only a small percentage of the decrease in member-

bank indebtedness.¹ The conclusion, therefore, is that the decrease in this item after 1924 resulted mainly from repayments by member banks.²

The borrowings of the member banks should also be considered in connection with their credit policies. This will indicate a significant feature of member-bank policy with respect to credit extension, though it will not give a complete picture of it. This examination may be made in terms of total credit advances received from the Federal Reserve. Since the item shows a similar trend to that of total member-bank borrowings, it is not a matter of particular importance as to which of the two is used. However, it will facilitate the discussion of member-bank policy in terms of Federal Reserve Bank policy to use the total of rediscounts and bills payable with the Federal Reserve.

The significance of changes in member-bank borrowings appears when they are compared to changes in the volume of loans and discounts made by the member banks. An increase in borrowings from the Federal Reserve indicates that the lending powers of the member banks are nearing exhaustion and that new demands for credit are being passed on to the Reserve Bank.³ An increase in loans and discounts while bills payable are falling off, or are about stable, indicates that member banks are in a position to enlarge their accommodation to the business public without looking to the Reserve Bank for help. A decrease in loans of member banks while Reserve Bank accommodation was being increased would be an unusual condition, "and would probably indicate serious or imminent banking trouble in some quarters."⁴

¹ An officer in one Chicago correspondent bank stated that his institution had not lost a dollar on account of loans to Iowa banks. This experience was not typical, however.

² See pages 46-56 for a more detailed statement of the relationship of reduced borrowings to bank failures.

³ See Willis and Steiner, *Federal Reserve Banking Practice*, p. 815.

⁴ *Ibid.*, p. 816.

During the second half of 1920, rediscounts and bills payable were mounting rapidly.¹ This tremendous increase came at the same time that member banks were reducing their loans from 369 millions to 350 millions of dollars.² This reflects the serious condition which the banks faced in the latter part of 1920. With liberal credit extensions and borrowers unable to pay their loans and with rapidly falling prices, member banks were in a difficult position. The Federal Reserve, contrary to opinion in some quarters of Iowa, was advancing credit in proportions much larger than usual. During the last six months of 1920, while loans of member banks were being reduced 5.1 per cent, the advances to these banks were being increased by 52.4 per cent. The proportion which advances by the Federal Reserve constituted of total advances to member banks is not known. In view of the close relation, however, between borrowings at the Federal Reserve and total member-bank borrowings, it is reasonable to assume that the percentage for the increase of Federal Reserve advances was about the same.

A different situation existed in 1921. Member-bank borrowings were rapidly reduced, the rate of reduction being higher during the first six months. Thus Federal Reserve advances were \$94,802,000 on December 29, 1920, and \$65,834,000 on June 30, 1921. This was a 30.5 per cent decrease and reflects a policy on the part of the Federal Reserve to require member banks to liquidate their accounts.³ During these six months member banks reduced their loans from \$350,039,000 on De-

¹ Unfortunately, the data on loans of Iowa member banks are not available for the period before June 30, 1920.

² The data on which the following discussion is based are given in Table XXVIII.

³ This rapid reduction caused widespread protests from bankers. A committee of the Iowa Bankers Association went to Chicago in April, 1921, for a conference with officials of the Federal Reserve Bank of Chicago, and obtained a promise that the pressure for liquidation of borrowings would be reduced. See *Report of the Iowa Bankers Association*, 1921, pp. 213-14.

ember 29, 1920, to \$330,752,000 on June 30, 1921, a decrease of 5.5 per cent. Such a large reduction in member-bank borrowings at the Federal Reserve at a time when deposits had decreased 5.4 per cent indicates that they were endeavoring to work out of their heavy indebtedness.

That the position of the member banks was being strengthened is further evidenced by the developments during the second part of 1921. This was a period of increasing loans with a decreasing volume of advances from the Federal Reserve. During the six months loans increased from \$330,752,000 to \$355,776,000.¹ In the same period borrowings at the Federal Reserve decreased from \$65,834,000 to \$54,712,000. This was a lower rate of decrease than in the preceding period but occurred at a time when demands upon the member banks were increasing. That the banks were able to increase loans at a time when they were reducing their borrowings is evidence of the progress of liquidation. The ability of Iowa member banks to meet the needs of the business public did not now depend directly upon aid from the Federal Reserve.

A second feature of the late 1921 period is also significant. The total obligations of member banks were reduced more rapidly than their obligations with the Federal Reserve. This suggests that the latter was following a slightly more liberal policy than the other lenders to Iowa member banks. It is significant in connection with the attitude found in some quarters that Federal Reserve policy during this period was unduly severe upon Iowa banks. Such a comparison cannot give a final answer to this criticism, though it indicates that Federal Reserve policy, viewed in terms of the other creditors of Iowa member banks, was not unreasonably drastic.

The first half of 1922 was another period of rapid reduction in member-bank borrowings from the Reserve Bank. These de-

¹ Some allowance should be made, of course, for seasonal fluctuations and the decreased need for credit after the crop-moving season was over.

creased from \$54,712,000 to \$12,902,000, the lowest point reached between 1919 and 1924. During these six months of 1922, loans decreased from \$355,776,000 to \$335,784,000. By the end of this period member-bank borrowings had reached an approximately normal figure. Definitely different trends in both member-bank loans and borrowings occurred after June, 1922. Loans increased steadily to the end of 1923. The increase in borrowings during the second part of 1922 was followed by a decrease slightly greater in the first half of 1923, and this in turn by a less rapid increase in the second part of the year. Thus the position of member banks, even after abnormal borrowings had been reduced, required advances from the Federal Reserve in order to be able to meet the demands of borrowers.

The end of 1923 marks another turning-point. After this date both loans and borrowings decreased regularly. Loans declined from \$358,832,000 to \$250,394,000 on June 30, 1928. During the same period borrowings were reduced from \$25,390,000 to \$1,543,000. Thus these changes reflect a decreasing demand for bank credit and a decreasing use of the facilities of the Federal Reserve.

Reduction in borrowings and bank failures. —The relationship between the reduction in member-bank borrowings and the increase in bank failures requires specific consideration. The changes in both items, which became significant in 1924, are indicated briefly in Table XXIX. The June 30, 1923, figure for borrowings was low for that period. The preceding December the total was \$36,446,000; and the following December, \$29,777,000. Thus the decrease during 1924 was less than is indicated by the table. During the three years ending June 30, 1927, while member-bank borrowings were reduced 20 millions, 229 banks failed, 60 of which were national banks and members of the Reserve System. Though the net decrease in borrowings was only two-thirds as great as the 30 millions reduction in 1922, it came after the former repayments and after a pro-

longed depression in the major industry upon which the banks depended for support. The question thus arises as to whether banks were forced to liquidate their indebtedness and whether this was a factor in the failure of many banks.

Without attempting an exhaustive enumeration of the causes of bank failures, the more important factors in the banking situation may be considered as a basis for the answer to the foregoing question.

TABLE XXIX
IOWA BANK FAILURES AND BORROWINGS

Year Ending June 30	Failures of Authorized Banks	Failures of National Banks	Borrowings of All Member Banks
			(ooo omitted)
1923.....	6	1	\$20,936
1924.....	57	2	23,501
1925.....	64	10	11,674
1926.....	85	23	7,192
1927.....	80	27	3,753
1928.....	58	15	1,813
1929.....	36	9	8,357
1930.....	40	5	2,083

1. A shrinking volume of loans and deposits. The decrease in available business for banks resulted in increased competition for this business. Only the more successful institutions, holding constant or increasing their volume of deposits, were able to continue in operation. A declining volume of business with resultant low earnings made it impossible for many institutions to meet operating expenses and to absorb losses from bad loans.

2. During the excessive business activity of 1917-20 banking standards were lowered. Loans were granted liberally upon land, crops, and live stock at inflated values. The severe price declines of 1920-21 made it impossible to collect many of these loans. The losses on these loans that proved bad had to be met out of earnings or by assessment upon stockholders. The un-

popularity of the second method, as well as the bankruptcy of many stockholders, together with its inadequacy even under more favorable conditions, put a premium upon income at a time when it was impossible for all banks to realize even average earnings.

3. As a result of the pressure for par collection by the Federal Reserve Board, the earnings of small country banks had been reduced. It is estimated that for many small banks the earnings from collection charges exceeded their earnings on loans.¹

4. Rapidly increasing prices prior to 1920 resulted in increased costs of operation, many of which failed to decline after 1920. Salaries, in particular, remained at the higher level. Increasing competition brought greater pressure for improved facilities for the display of prosperity. The resulting expenditures on buildings and equipment did not result in a proportionate increase in income.

5. The high degree of specialization of economic activity resulted in a corresponding specialization in the loan accounts of the banks. This lack of diversification proved a serious weakness during the prolonged depression in agriculture. The fortunes of the bank were too closely bound to the economic life of the community to escape the troubles of the latter.

6. With improved roads and the general ownership of motor cars, farmers and villagers extended the area over which they purchased goods and services. The local bank was forced to compete with banks in other localities. It was this situation which permitted some banks to hold deposits uniform, or even to increase them, at a time when total bank deposits were decreasing. Banking was also influenced by changes in merchan-

¹ Willis and Steiner, *op. cit.*, p. 581. However, because of the greater progress of par collection before the establishment of the Federal Reserve System, the income from collection charges was considerably less for banks in Iowa than in many sections.

dising methods. The invasion of the chain store into small cities resulted in a decline in the business of independent merchants. Whereas the latter had carried deposits with the local bank and had been financed by it, the chain store had its banking connections chiefly with the banks in larger cities. The trend toward mass production and mass distribution was further reflected in the establishment of agencies of large corporations in the locality, financed in the larger cities. The filling station, the automobile sales agency, and the public utility, perhaps controlled by a holding company, are typical cases.

These new conditions brought with them a greater degree of interbank competition. The bank in the county seat or larger town or the large city institution became a more direct competitor of the country bank. In this competition the latter had the odds against it. The trend of economic forces in the direction of large-scale operation was on the side of the banks in larger centers. A small movement of population from the farm and small town to larger towns and cities also made for some reduction in available business for the rural bank.

Over 30 per cent of the state and national banks in operation in Iowa in 1921 found the pressure of these combined forces too great and were forced to close.¹ This is the situation out of which an enormous volume of criticism against the Federal Reserve System has grown. It is important, therefore, to consider the validity of these criticisms and to determine the responsibility of the Federal Reserve for the serious plight of Iowa banking and agriculture.

Though the strongest criticism which the farmer could make against the system is on the point of its responsibility for inflation, this is passed over by the critics and need not be considered here. Interest in Federal Reserve policy with respect to

¹ In fact, 30.9 per cent. On June 30, 1921, there were 1,704 state and national banks in Iowa. During 1921-29, 528 of these failed. See *Sixteenth Annual Report of the Federal Reserve Board* (1929), p. 23.

agriculture has centered in the later 1920 and early 1921 period. The main charge is that of discrimination against agriculture in the deflation period. Governor McDougal of the Federal Reserve Bank of Chicago replied specifically to the charge made by Senator Brookhart and others that loans by the Reserve Bank to a single Chicago institution (the Continental and Commercial National Bank) exceeded the total loans to the 430 member banks in Iowa.¹

Loans of Reserve banks to member banks, Mr. McDougal stated, should be considered on the basis of "respective reserve balances with the Federal Reserve Bank by the institutions involved."² And to show that the Federal Reserve Bank of Chicago had not discriminated against agriculture, "loans to and reserve balances of member banks in a pre-eminently agricultural state were compared with similar figures for member banks in the other states as well as the largest cities of the district."³ This comparison is indicated in the accompanying table (Table XXX), given in the article by Governor McDougal.

Thus, according to Governor McDougal the criterion is not the absolute amount of advances to a single Chicago bank as compared with total advances to all Iowa member banks. The test is rather the amount of the advance in relation to the proper claims of the individual bank to aid from the Federal Reserve. The member bank's contribution to the loanable resources of the Reserve Bank is equal to its paid-up subscription to the Reserve Bank's capital stock, plus 65 per cent of its average reserve balance with the Federal Reserve Bank (deducting the 35 per cent reserve which the latter must maintain against the deposit) multiplied by two and one-half. This constitutes the normal or basic discount line. All banks might be

¹ *Annals of the American Academy of Political and Social Science*, January, 1922, pp. 199-203.

² *Ibid.*, p. 199.

³ *Ibid.*, p. 200.

treated alike by lending to each up to this point. However, the borrowing in excess of this amount by a member bank cur-

TABLE XXX

"LOANS TO ALL MEMBER BANKS IN A GREAT AGRICULTURAL STATE COMPARED WITH LOANS TO THE LARGEST BORROWING BANK IN THE FEDERAL RESERVE DISTRICT AND LOANS TO ALL MEMBER BANKS IN THE CITY OF CHICAGO; ALSO, COMPARATIVE RESERVE DEPOSIT FIGURES"*

(ooo Omitted)

Date		All Member Banks, Agricultural State	Largest Borrowing Bank in District	All Member Banks, Chicago
7-2-20	Reserve deposits†.....	\$21,000	\$32,000	\$135,000
	Loans.....	\$63,000	\$80,000	\$252,000
	Percentage of loans to Reserve deposits.....	300.0	250.0	186.6
10-2-20	Reserve deposits.....	\$21,000	\$31,000	\$133,000
	Loans.....	\$78,000	\$78,000	\$250,000
	Percentage of loans to Reserve deposits.....	371.0	251.6	187.9
1-5-21	Reserve deposits.....	\$20,000	\$30,000	\$130,000
	Loans.....	\$94,000	\$70,000	\$187,000
	Percentage of loans to Reserve deposits.....	470.0	233.3	143.8
4-2-21	Reserve deposits.....	\$20,000	\$28,000	\$121,000
	Loans.....	\$75,000	\$71,000	\$188,000
	Percentage of loans to Reserve deposits.....	375.0	253.5	155.3
7-1-21	Reserve deposits.....	\$18,000	\$29,000	\$123,000
	Loans.....	\$64,000	\$33,000	\$128,000
	Percentage of loans to Reserve deposits.....	355.5	113.7	104.0
10-1-21	Reserve deposits.....	\$18,000	\$32,000	\$127,000
	Loans.....	\$62,000	\$ 7,000	\$ 51,000
	Percentage of loans to Reserve deposits.....	344.4	21.9	40.1

* *Annals of the American Academy of Political and Social Science*, January, 1922, p. 201. Though Mr. McDougal does not say so specifically, the data used clearly indicate that his term "great agricultural state" refers to Iowa, and the largest borrowing bank in the district to the Continental and Commercial National Bank of Chicago.

† The figure for Reserve deposits in each case is the average for the month.

tails the Reserve Bank's power to afford similar accommodation to other members.

Governor McDougal bases his defense of the policy of the Federal Reserve Bank of Chicago with respect to Iowa member banks upon the Reserve deposits of the latter. A loan of \$50,000,000 to one bank may not be excessive where the loan of \$50,000 to another would be. On July 2, 1920, he states that total loans to Iowa member banks were 300 per cent of the Reserve deposits of these banks. On October 2, the percentage had increased to 371.4 and on January 5, 1921, to 470. On April 2, 1921, the figure had been reduced to 375, after which the reduction was gradual, declining to the figure of 355.5 on July 1, and 344.4 on October 1.

Advances to the largest borrowing bank in the district, on the other hand, never exceeded 253.5 per cent, and on October 1, 1921, were 21.9 per cent as compared with the 344.4 per cent for all member banks in the agricultural state. Borrowings of all member banks in Chicago were 187.9 per cent of Reserve deposits at the high point, October 2, 1920, and had been reduced to 40.1 per cent a year later. If McDougal's standard be accepted as valid, the conclusion must follow that there was no discrimination against agriculture. Relatively, the banks in the agricultural state received more liberal advances.

Is McDougal's defense an adequate reply to the critics of the Federal Reserve policy? His point that advances must be considered in relative rather than absolute terms is a valid one. Much criticism has been beside the point because the critic has failed to appreciate this fundamental fact. The large advance to the large large bank did not in itself justify a larger advance to the small bank. With respect to the duties of the board of directors of the Federal Reserve Bank, Section 4 of the Federal Reserve Act provides that

said board shall administer the affairs of said bank fairly and impartially and without discrimination in favor of or against any member bank or banks and shall, subject to the provisions of law and the orders of the

Federal Reserve Board, extend to each member bank such discounts, advancements and accommodations as may be safely and reasonably made with due regard for the claims and demands of other member banks.

The foregoing provision, quoted by McDougal, would seem to furnish adequate legal justification for the treatment received by banks in agricultural sections. It might, however, furnish a basis for complaint to the city banks if they had suffered from lack of needed credit advances, which apparently they did not.

McDougal's defense is, furthermore, a clever debating answer to the charge, frequently repeated in Iowa, that a single Chicago bank received more credit from the Federal Reserve Bank than all member banks in Iowa during 1920 and 1921. The criticism is answered in the terms in which it is made.

It does not follow, however, that the defense is a valid justification of Federal Reserve policy. Agriculture faced a particularly serious situation which called for emergency action. An argument for the pooling of reserves in a central bank is that aid may be rushed to the weak spots. Emergencies commonly strike in spots, not all along the line. Iowa banks faced an emergency situation in 1920 and 1921; Chicago banks faced a much less serious situation. This gave the Iowa banks a stronger claim for aid from the Reserve Bank. It has already been seen that, in proportion to Reserve deposits, they received larger advances. But were these advances as great as the emergency situation required and as liberal as sound Reserve Bank policy permitted?

With respect to the amount of credit which the Federal Reserve could safely extend to Iowa banks, it should be noted that the Federal Reserve Bank of Chicago was forced to seek credit from other Reserve banks. During 1920 the Reserve banks of Boston, New York, and Cleveland discounted bills totaling \$255,000,000 and purchased bills to the amount of

\$28,178,000 for the Chicago Reserve Bank.¹ At the peak, advances to Iowa banks totaled about \$101,000,000. Thus the Chicago bank was borrowing from the other Reserve institutions two and three-fourths the amount extended to Iowa banks. Though this does not prove that the Reserve Bank of Chicago went to the limits permitted by sound banking in making advances to Iowa member banks, it indicates that the emergency character of the situation was fully appreciated and emergency action taken to meet it.

Mr. Brookhart, when representing the National Farmers' Union, stated before the Joint Commission of Agricultural Inquiry that the Reserve credit available to Iowa banks had arbitrarily been reduced from 91 to 36 millions of dollars.² On this point Brookhart's criticism has been misunderstood and unduly attacked. Thus Beckhart states that Brookhart "is not clear in his testimony but seems to imply that this allotment was by some provision in some act. Nor does he state definitely whether this allotment was for one year or for a fraction thereof. A careful search fails to reveal data which in any way substantiate Brookhart's contention. In the *Ninth Annual Report of the Federal Reserve Board* figures are given which show that the total amount of paper discounted for member banks in Iowa in 1920 amounted to 824 millions, in 1921 to 635 millions, and in 1922 to 898 millions of dollars."³ By "91 millions" Brookhart evidently meant the total advances to Iowa member banks early in 1921, when vigorous steps were taken to reduce the amount.⁴ The 36 million figure was the famous "basic line" for all Iowa member banks which was given wide publicity by officials of the Federal Reserve System.

On the other point at issue, as to whether the credit ad-

¹ *Seventh Annual Report of the Federal Reserve Board*, p. 204.

² *Hearings before the Joint Commission of Agricultural Inquiry*, III, 769-70.

³ *The Discount Policy of the Federal Reserve System*, p. 479.

⁴ On January 5, 1921, the total was 94 million dollars.

vances were adequate to meet the needs of member banks, a more definite conclusion is possible. There is the significant fact that there were no failures among member banks in 1920, and only three in 1921, two in 1922, and three in 1923. Non-member bank failures totaled three in 1920, ten in 1921, ten in 1922, and three in 1923. Though it is not possible to explain the difference in failures among member and non-member banks as due to Federal Reserve influence, since many of the benefits of the system were enjoyed by the non-members, it is significant that only a small number of suspensions occurred during the sharp recession in business in 1920 and 1921. The few failures in comparison with those of later years, together with advances to member banks equal to three times the basic discount line, indicates that the Federal Reserve Bank of Chicago was a powerful agency in extending aid to Iowa banks.

The Reserve Bank, however, worked a hardship upon many Iowa banks in its attempt to force a rapid liquidation of loans in the spring of 1921. In the foregoing table presented by McDougal (Table XXX), it is indicated that advances to all member banks in the agricultural state were reduced from 470 per cent of their Reserve deposits on January 5, 1921, to 375 per cent on April 2, 1921. During the same period the advances to the largest borrowing bank of the district were increased from 233.3 to 253.5 per cent of Reserve deposits. Advances to all member banks in Chicago increased from 143.8 to 155.3 per cent. The contraction of credit in Iowa was more serious because it came at the time of the seasonal increase in demand for credit with the planting of crops. It was only after protests were made by bankers to the controller and to the Federal Reserve Board that the pressure for liquidation was reduced.

Beginning in 1924 a great increase in bank failures occurred. In that year 57 state and national banks were forced to close; in 1925, 64; in 1926, 85; and in 1927, 80 institutions failed. What responsibility does the Federal Reserve System have for

these failures? The fundamental causes were the diminishing volume of deposits and loans, increased costs of operation, decreased earnings, losses on bad loans, increased interbank competition, and the decline of the small community under the pressure of economic forces.

The provision of the Federal Reserve Act relating to collection charges was a factor in the decreased earnings of many banks. For the other causes of failure the System cannot be held responsible. They are the result of underlying economic forces. The System does not have sufficient control over member banks to insure them against loss from the fundamental changes in the industry. It can and should give protection in emergency situations. In the crisis of 1920-21, Iowa member banks received liberal assistance from the Reserve Bank of Chicago, the effectiveness of which is reflected in the limited number of bank suspensions during the crisis. The flood of bank failures did not come until three years later, and was the result of fundamental economic changes.

Conclusion.—An appraisal of Federal Reserve policy during 1920-21 requires consideration of the urgency of the needs of Iowa banks and of the dictates of sound Reserve Bank management. Criticism of the administration of credit advances seems justified on some points, particularly the unduly drastic and premature pressure for liquidation in February and March of 1921. With reference to the more fundamental question of the adequacy of the advances by the Federal Reserve, the critics do not have a good case. Advances were liberal in terms of the requirements of sound Reserve policy and were sufficient to avoid any considerable number of bank suspensions. The record of credit extensions fails to justify the charge of discrimination against agriculture.

CHAPTER IV

MEMBER-BANK RATIOS

The review of member-bank activities in the foregoing chapters included the comparison of the different items at selected dates and the trend in individual items over the period. It is now proposed to carry this comparison a step farther by calculating the ratios between the more important items at various dates during the period. This will permit an analysis of the condition of Iowa member banks in terms of what is normal for commercial banks generally. Fundamental tendencies among Iowa member banks will be determined; and if significant differences from representative commercial banks in the United States exist, these will be discovered.

Ratios between important items will also make possible a more accurate comparison of the changes in a given item with respect to other items. In this respect the ratios supplement the analysis in the two preceding chapters, giving a more accurate statement of relationships than can be obtained from a comparison of the trends in the items themselves. From the most important items in member-bank condition, the following four series of ratios have been computed: loans and discounts to capital investment, deposits to capital investment, deposits to loans, and deposits to cash.

Loans to capital investment.—The relationship of loans and discounts to capital investment is a test of the credit policies of the bank. An unusually large volume of loans in relation to invested capital would indicate excessive lending, whereas an unusually low ratio would indicate that the earnings of the bank were being impaired by a small volume of loans. The Joint Commission of Agricultural Inquiry found that this ratio for

all national banks in the United States was 3.8 in 1915 and 5.5 in 1920.¹ On June 30, 1927, the ratio was 4.3.² The ratio for all reporting banks in the country was 5.1 in 1920 and 4.5 in 1927.³ These ratios suggest the normal relationship between

TABLE XXXI
RATIOS—IOWA MEMBER BANKS*

Date	Loans to Capital Stock	Loans to Capital Investment
1919, June 30.....	9.07	5.12
Dec. 31.....	10.37	5.85
1920, June 30.....	10.76	5.92
Dec. 29.....	9.91	5.23
1921, June 30.....	9.35	5.12
Dec. 31.....	10.10	5.68
1922, June 30.....	9.54	5.30
Dec. 29.....	9.82	5.37
1923, June 30.....	9.76	5.59
Dec. 31.....	9.86	5.76
1924, June 30.....	9.60	5.59
Dec. 31.....	9.26	5.59
1925, June 30.....	9.28	5.56
Dec. 31.....	9.15	5.56
1926, June 30.....	8.81	5.31
Dec. 31.....	8.54	5.20
1927, June 30.....	8.41	5.10
Dec. 31.....	8.37	5.07
1928, June 30.....	8.41	5.06
Dec. 31.....	8.55	5.24
1929, June 29.....	8.54	5.21
Dec. 31.....	8.77	5.33
1930, June 30.....	8.49	5.08
Dec. 30.....	8.52	5.01

* The ratios in this and the following tables are based upon data from the member-bank call reports.

loans and capital investment in the representative commercial bank with which the Iowa member bank ratios in Table XXXI may be compared.

The 5.92 ratio for Iowa member banks as compared to that of 5.5 for all national banks in 1920 indicates that credit expan-

¹ *Report of the Joint Commission of Agricultural Inquiry*, Part 2, p. 13.

² *Annual Report of the Comptroller of the Currency*, 1927.

³ Computed from reports of the controller of the currency.

sion was only slightly greater in Iowa.¹ In 1927 the ratio for Iowa member banks was 5.1; for all national banks, 4.3. Thus the reduction in loans, relative to capital investment, was definitely less in Iowa during 1920-27. Though the slightly more liberal lending policy of Iowa banks was doubtless a factor in this showing, the acute depression in agriculture contributed mainly to the greater difficulty experienced by Iowa banks in the liquidation of loans.

Deposits to capital investment.—The ratio of deposits to capital investment indicates the position of the bank with respect to its earning ability. A large volume of deposits in proportion to the funds supplied by stockholders means that the bank is in a position to use the funds of the stockholders more effectively. The ratio is also a test of the safety of the bank, the depositor's margin of safety in the form of claims against the stockholders in the event of the failure of the bank varying indirectly with the increase in this ratio. It is generally accepted that a bank with a ratio of deposits to capital investment of less than 5 to 1 is conducting too small a volume of business for profit. On the other hand, a bank which shows a ratio of more than 10 to 1 is conducting too large a volume of business to provide an adequate margin of safety in the event of its failure.²

The declining ratio during 1920-21 was the result of heavy withdrawals of deposits experienced by banks generally. The increase in the ratio since early 1922 was produced by increases in deposits, aided after 1924 by a decrease in total capital investment of member banks following the failure of many institutions. Bank suspensions, being greater among the less suc-

¹ The ratio for Iowa member banks, being influenced mainly by national-bank operations, would be expected to correspond more closely to the ratio for all national banks than for all banks reporting to the controller.

² See Willis and Edwards, *Banking and Business* (1925), p. 195.

cessful deposit-attracting institutions, tended to increase the average deposits per member bank.¹

The ratio of deposits to capital investment for all national banks in the United States was 3.3 on June 30, 1920, and 5.6

TABLE XXXII
RATIOS—IOWA MEMBER BANKS

Date	Deposits to Capital Investment	Deposits to Loans
1919, June 30.....	5.63	1.10
Dec. 31.....	6.14	1.04
1920, June 30.....	5.70	0.96
Dec. 29.....	4.78	0.91
1921, June 30.....	4.69	0.91
Dec. 31.....	4.75	0.83
1922, June 30.....	4.91	0.92
Dec. 29.....	5.03	0.93
1923, June 30.....	5.61	1.00
Dec. 31.....	5.79	1.00
1924, June 30.....	5.81	1.03
Dec. 31.....	6.30	1.12
1925, June 30.....	6.29	1.13
Dec. 31.....	6.59	1.18
1926, June 30.....	6.47	1.21
Dec. 31.....	6.60	1.26
1927, June 30.....	6.76	1.32
Dec. 31.....	7.10	1.41
1928, June 30.....	7.40	1.46
Dec. 31.....	7.62	1.45
1929, June 29.....	7.19	1.34
Dec. 31.....	7.41	1.38
1930, June 30.....	7.29	1.43
Dec. 31.....	7.47	1.49

on June 30, 1926.² Though the Iowa member-bank ratios indicate a relatively greater deposit expansion for this group than for all national banks, the difference is not great. The larger

¹ This would be true even though no increases occurred in the individual deposits of the surviving members.

² Compiled from reports of the controller. The ratio for "all reporting" banks was higher: 6.3 in 1920 and 6.2 in 1927. Inasmuch as mutual and stock savings banks are included as well as commercial banks, it does not furnish as satisfactory a basis for comparison with Iowa member banks as does the ratio for all national banks.

deposits of the Iowa member banks made for greater earnings, and the profitableness of its earnings is an important factor in the stability of the bank. The margin of safety for the depositor was less; but, judged by normal banking standards, the margin was adequate.

The relative position of Iowa member banks is indicated in Table XXXIII, which gives a brief comparison of this group with Iowa state and savings banks and all national banks in the United States. The small capital of many state and savings banks was apparently a factor in the higher volume of deposits in proportion to invested capital in this group. That is, there

TABLE XXXIII
~RATIO OF DEPOSITS TO CAPITAL INVESTMENT

June 30	Iowa Member Banks	Iowa State and Savings Banks	All National Banks in United States
1920.....	5.7	7.3	5.3
1927.....	6.7	7.4	5.6

was a tendency on the part of the smallest banks to attract a proportionately greater volume of deposits.

The 1920-27 trend in all three groups was toward a greater relative increase in deposits than in capital investment. Bank failures resulted in a decrease in total capital investment in all three classes but did not appreciably reduce the total volume of available deposits. Thus the surviving banks were able to increase their individual deposits without a corresponding increase in net worth. The significant fact in this tendency was the greater deposit-attracting power of the member banks. This group increased its ratio of deposits to capital investment by an even 1 per cent as compared with the one-tenth of 1 per cent increase among Iowa state and savings banks and three-tenths of 1 per cent increase for all national banks. That this

was a favorable tendency of considerable significance for member banks appears when it is viewed against the keen competition for deposits during these years.

Deposits to loans.—The ratio of deposits to loans is useful in discovering any tendency to overlending. It is not, however, entirely adequate as a measure of the condition of the bank, since it is very sensitive to changing monetary conditions. Deposits decrease more rapidly than loans in periods of business recession. A representative commercial bank in the United States has loans and investments approximately equal to its deposits. The deposits of a bank may, therefore, be taken as a measure of its loans and investments, the relationship being significant in determining whether the bank is making loans in reasonable proportions. Any tendency to overlending would be reflected in a low ratio.

The ratio of deposits to loans in all national banks in the United States was 1.26 in 1920 and 1.56 in 1927. The corresponding ratio for Iowa member banks was 0.96 in 1920 and 1.32 in 1927. Though the member-bank ratio was lower at both dates than the ratio for all national banks, it did not vary widely from the theoretical ratio which one would expect to find in a representative commercial bank.¹ Whereas the more rapid increase in loans than in deposits produced the falling ratio in 1919 and early 1920, the downward trend during the second half of 1920 and 1921 resulted from the greater relative decline in deposits. After 1921, however, the ratio rose steadily, the result of a great decrease in loans accompanied by a considerable increase in the deposits of member banks.

The picture of the 1920-27 period is more complete if the ratios, of loans to capital investment, deposits to capital investment, and deposits to loans are considered jointly. Prior to 1924 the changes in capital investment were unimportant, with deposits increasing steadily and loans slowly declining as 1920

¹ See Table XXXII.

and 1921 were left behind. The somewhat different situation which appeared in 1924 and continued into 1927 was characterized by a more rapid increase in deposits, a more gradual decline in loans, and a pronounced decline in capital investment. The shrinking volume of available bank deposits made more significant the increase in the percentage held by member banks. The decline in capital investment, greater after 1923, resulted from the declining Reserve membership. Most banks left the System because of failure, a fact which makes more significant the gain in total member-bank deposits. The sharp reduction in loans after 1923 was a favorable factor, except to

TABLE XXXIV
RATIO OF DEPOSITS TO LOANS

June 30	Iowa Member Banks	Iowa State and Savings Banks	All National Banks
1920.....	0.96	1.04	1.26
1927.....	1.32	1.10	1.56

the extent that member banks were forced to place their earning assets in less productive forms.

Loan expansion.—A comparison of the expansion of loans relative to deposits in member and other banks appears in Table XXXIV. In 1920 Iowa member banks had a greater expansion of loans in proportion to deposits than either of the other groups. During the 1920-27 period all three groups moved in the direction of a smaller loan expansion, the tendency among the member banks being the most pronounced. The state and savings banks were less successful than the member banks in the struggle for deposits, and also less conservative in granting credit. There are two explanations for their poorer showing. Their collection policy may have been less effective, caused perhaps by a larger proportion of frozen loans. The second possibility is that this group followed a more liberal lending

policy, taking credit risks which were avoided by the member banks. The fact that this tendency continued as the depression period, with its frozen loans, was left behind suggests that the second explanation is the better one. It seems likely, therefore, that as the difficulties of placing an adequate volume of sound loans increased, the state and savings banks were forced to lend to poorer credit risks.

The record of the member banks during the difficult 1920-27 years was thus unusually good. Though they were the most successful institutions in the severe struggle for deposits, their lending policies were marked by increasing conservatism. The lower earnings resulting from the smaller volume of loans was perhaps preferable to more liberal lending with its attendant losses from bad loans.¹ Member-bank policy was definitely better than the policy of the representative Iowa bank.

Deposits to cash.—Though the ratio of cash to deposits is a relatively unimportant factor in determining the fundamental condition of the bank, it is highly significant in the day-to-day operations, since the inability of the bank to meet promptly all claims upon it for cash would be extremely embarrassing. The significance of the cash item is further enhanced during disturbed financial conditions which accentuate the tendency of depositors suddenly to withdraw their accounts. Inasmuch as the full amount of member-bank reserves has been carried with the Federal Reserve Bank since 1917, the amount of cash carried in its own vaults is determined by the judgment of the bank with respect to its needs for cash, and reflects a conscious policy of the member bank.

The amount of cash which a given bank will require depends upon a number of variables, including the habits of its deposi-

¹ The increase in investments absorbed only a small percentage of the reduction in loans. The increases in purchases of commercial paper, which it is impossible to measure, and in brokers' loans further offset the decrease in earnings from the smaller volume of loans.

tors with respect to paying bills and the nature of the economic activities of the community. It is thus impossible to state very definitely what is an adequate amount of cash with reference to deposits. A general standard, however, is the corresponding ratio for all national banks in the United States. On June 30 of three different years this ratio was as follows: 1920, 38.1; 1925, 45.5; 1927, 50.1.¹

Reference to Table XXXVI indicates that the trend in this ratio for Iowa member banks did not correspond to the trend for all national banks in the United States. This is more briefly indicated by Table XXXV. In 1920 the cash position of the

TABLE XXXV
RATIO OF DEPOSITS TO CASH ON JUNE 30

	1920	1925	1927
National banks of United States.....	38.1	45.5	50.1
National banks in Iowa.....	36.3	34.6	32.4
Member banks in Iowa.....	39.0	36.4	34.7
State and savings banks in Iowa.....	32.7	33.9	34.6

representative Iowa member bank corresponded closely to that of the representative national bank in the United States, deposits of the former being 39.0 times the amount of cash on hand, as compared to 38.1 times in the case of the latter. The Iowa national banks had an intermediate position, with a figure of 36.3, indicating that the deposits-to-cash ratio of the state member banks was still higher, and thus increasing the average ratio for all Iowa member banks. The 1925 figures show the national banks of the United States and the Iowa member banks moving in opposite directions, the former toward a smaller, and the latter toward a higher, percentage of cash. The same tendency appeared in 1927.

¹ Cash, as used in this chapter, includes only the cash-in-vault item in the controller's reports.

The trend of the deposits-to-cash ratio of the Iowa national banks corresponds closely to that of the member banks. This is to be expected inasmuch as the national banks constituted the main group of member banks and the two sets of ratios were largely the result of the same influences. However, the national banks consistently maintained a higher proportion of cash. The difference in the two sets of ratios is, therefore, due to the group of state member banks and the lower cash reserves carried by this group.

The policy of both groups of Iowa banks was to carry liberal amounts of cash in their vaults. This policy became more pronounced toward the close of the period. Thus, while the representative national bank in the United States in 1927 had expanded its deposits to \$50.10 to \$1.00 of cash in vault, the expansion for the typical Iowa member bank was \$34.70, and for the representative Iowa national bank only \$32.40. This more conservative policy of the Iowa banks was the result, in part at least, of the local banking situation. A declining volume of deposits in itself made for conservatism. Bank failures tended to reduce the confidence of the public in all banks and produced a state of mind which made depositors more responsive to rumors regarding the possible insolvency of the bank. Conservative banking required larger cash reserves than were necessary under more normal conditions. The larger proportion of demand deposits to total deposits in Iowa than in the larger banks in the older sections was also a factor in the higher ratio among Iowa banks.¹

Table XXXVI also contains the ratio of *demand* deposits to cash in Iowa "country" national banks, and in all Iowa

¹ During the last decade time deposits have increased more rapidly in volume than accounts subject to check. It seems probable that the change in banking habits and the increase in savings have been most pronounced in the older sections. Dowrie, in his *American Monetary and Banking Policies* (p. 57), states that the increase in net demand deposits of members of the Federal Reserve System from 1922 to 1926 was 27 per cent, whereas time deposits increased 93 per cent.

member banks.¹ The trends of these ratios are significant for two reasons. They permit a comparison of the deposits-to-cash ratio with the demand-deposits-to-cash ratio, and also make possible a more detailed examination of the latter ratio as between the country national and all member banks.

TABLE XXXVI
RATIO OF DEPOSITS TO CASH IN IOWA BANKS

DATE	DEPOSITS TO CASH		DEMAND DEPOSITS TO CASH	
	Member Banks	National Banks	Member Banks	Country National Banks
1919, June 30.....	37.55	35.25	19.72	20.78
Dec. 31.....	38.65	36.38	20.19	21.92
1920, June 30.....	39.01	37.32	19.58	21.07
Dec. 29.....	34.27	32.28	15.87	17.92
1921, June 30.....	36.49	34.50	16.58	18.18
Dec. 31.....	39.42	36.95	15.99	18.86
1922, June 30.....	39.35	36.67	18.13	18.66
Dec. 29.....	35.37	33.13	16.48	17.85
1923, June 30.....	46.84	43.55	20.93	21.93
Dec. 31.....	38.24	36.09	16.94	17.94
1924, June 30.....	35.58	33.05	15.28	17.23
Dec. 31.....	35.89	34.24	16.19	17.71
1925, June 30.....	36.44	34.62	16.15	16.45
Dec. 31.....	33.41	31.03	15.26	15.59
1926, June 30.....	35.79	33.61	16.50	16.55
Dec. 31.....	28.15	26.55	13.12	14.84
1927, June 30.....	34.70	32.48	16.20	16.16
Dec. 31.....	38.36	32.29	18.94	*
1928, June 30.....	43.08	38.31	*	.....
Dec. 31.....	37.89	*	.....	.....
1929, June 29.....	41.85	39.61	.....	.....
Dec. 31.....	37.06	*	.....	.....
1930, June 30.....	41.11	38.03	.....	.....
Dec. 31.....	37.74	*	.....	.....

* Data not available.

In June, 1919, total deposits were 37.55 times and demand deposits 19.7 times the cash in vault of all member banks. Except, of course, for the variations due to changes in the proportion of demand to total deposits, the trends of the two ratios

¹ The term "country" national banks is used here, as in the reports of the controller, to include all banks located outside of central reserve and reserve cities.

would be the same. Some variations occurred. Demand deposits decreased more rapidly than total deposits during 1920 and increased more slowly in 1921. In 1927, demand deposits, constituted a smaller percentage of total deposits than in 1919, though the difference was not great.

The relationship of demand deposits to cash in the country national banks invites special consideration. This will indicate whether the greater loss of deposits by the smaller banks, and by the banks in smaller communities, was accompanied by a corresponding loss of cash. In general the country banks carried a slightly smaller amount of cash in proportion to demand deposits. The 1.06 difference in the ratios for the two groups on June 30, 1919, increased to 1.49 a year later and to 2.87 on December 31, 1921. These figures point to relatively larger withdrawals of cash in the country national banks during the 1920-21 crisis. During most of the period, however, the differences in the two sets of ratios were negligible. Though the contrast would be greater if the comparison were between country national and reserve city national banks, the differences in the two sets of ratios would be unimportant.

Summary.—Member-bank developments during the nine years ending June 30, 1928, fall into four periods. The first, covering the twelve months from June 30, 1919, was one of rapid expansion, marked by increases in deposits, loans, and total bank resources. The second period, which included the second half of 1920 and 1921, was characterized by sharp recession and severe depression in business. Loans, deposits, and cash reserves declined rapidly, and the borrowings by member banks increased enormously.

Three years (1922-24) of steady increase in the volume of bank operations followed. Increasing deposits, loans, and cash reserves were accompanied by large reductions in member-bank obligations. Though substantial recovery was effected, conditions were far from satisfactory at the close of the third period, December, 1924.

The developments during 1925-28 were more complex. Bank failures which had appeared in earlier years now swept the state. The volume of member-bank operations declined rapidly. Reductions in time and demand deposits, loans, capital investment, and total resources reflect the rapid diminution in member-bank activity. However, the contraction in volume of operations did not place the banks in a weaker position in 1928 than in 1924. More than 100 member banks were eliminated by failure during the three and one-half years ending June 30, 1928. The representative surviving member bank was in a stronger position than the representative of the 438 member banks in operation on December 31, 1924. During these three and one-half years borrowings were reduced to a negligible amount, investments were increased, the loans-to-capital-investment ratio was lowered and the deposits-to-capital-investment ratio increased, and the cash position was strengthened.

In spite of a sharp decline in total available bank deposits and of a great decline in Federal Reserve membership, the total deposits of member banks were larger in 1927 than in 1919 or in 1920. This was an outstanding achievement and reflects the ability of member banks to compete effectively for deposits. Individually, however, member banks were not expanding their capital accounts, with the result that the decrease in capital investment because of bank failures was not offset by an increase in this item among the surviving banks. Thus the representative member in 1927 had a larger volume of deposits in proportion to its net worth. This more effective use of the stockholder's investment in the bank did not decrease the depositor's margin of safety below safe limits.

The increasing conservatism of member banks is reflected in the decreased volume of loans. In view of the increased difficulty of placing an adequate volume of sound loans, this was a highly desirable policy. As a group non-member banks were less conservative, though the size of their deposit accounts

should have held them to a smaller loan expansion than the member banks. The greater expansion of the non-member group was apparently made at the cost of some sacrifice in quality of loan accounts. Though it is not possible to measure the relative importance of loans as a source of deposits in the two groups, the fact that the deposits of member banks increased at a greater relative rate than loans, as compared with these items in the non-member group, suggests that this source of deposits was more important for non-member than for member banks.

The tendency to increase the amount of cash in vault in proportion to deposits likewise reflects a more conservative attitude. Though the ratio for member banks corresponded closely to that for all national banks in the United States in 1920, the ratios of the two groups moved in opposite directions after this date. In the face of general unsettled banking conditions and frequent bank failures, a large amount of cash in the vault offered needed protection. In this respect, however, the policy of member banks was no better than that of the state and savings banks, unless the claims of the former for aid from the Federal Reserve would have justified them in carrying a smaller proportion of cash in their vaults.

Though changes in banking practice are difficult to measure, the evidence points to more efficient and conservative management of the representative member bank in 1928 than in 1920. The increasing difficulty in obtaining deposits placed a premium upon a favorable community attitude. More conservative policies with respect to loans and cash reserves were adopted, and efficiency in management assumed a new importance. For the individual bank the choice was between holding the confidence of the banking public plus efficient operation and failure. Survival in itself was thus some evidence of capable management.

CHAPTER V

REPRESENTATIVE MEMBER BANKS¹

A summary of the operations of all Iowa member banks is valuable for giving the major tendencies. It does not, however, differentiate between various groups of banks which may have widely varying practices. In order to get a better picture of the operations of the Federal Reserve System in Iowa, it is necessary to supplement the study of the activities of all member banks with a more detailed examination of certain individual institutions. Such an examination should reveal any characteristics that are obscured by other and more dominant forces. It should indicate, also, whether important differences in member-bank relations are to be found in different groups of banks.

Borrowing practices of member banks.—Since it is desired to examine rediscounting activities, the banks used as cases were selected upon the basis of their rediscounting practices. All member banks fall into three general groups—those not rediscounting, those rediscounting to a limited extent, and those rediscounting heavily. In order to furnish further information in regard to the borrowing practices of these groups, a fourth group, made up of banks which had failed during the period, was also included.

A study of these groups of representative banks should furnish concrete data on this phase of member-bank relations with the Federal Reserve System. Five banks in each group representing large, medium, and small banks were studied. Thus the

¹ This chapter is based upon data relating to twenty unnamed Iowa member banks furnished by the Federal Reserve Bank of Chicago. These data include the capital, surplus, undivided profits, deposits, loans and discounts, and borrowing items for June 30 and December 31 for the nine-year period, 1919-28.

twenty banks examined were representative of the various sizes and types of banks belonging to the Federal Reserve System.

The banks in Group A were selected from among the institutions which did not rediscount with the Federal Reserve during the 1919-28 period. This does not imply that these were stronger banks and hence did not need aid from the Federal Reserve. Neither does it indicate that they were small banks that depended upon securing help from city correspondent banks rather than from the Reserve Bank. They were member banks which for one reason or another did not see fit to borrow from the Federal Reserve System.

The banks in Group B were selected from among those which used the facilities of the Reserve Bank only to a limited degree. At times they borrowed heavily, but they did not regularly have large obligations at the Reserve Bank. The significant feature of their borrowing policy was to liquidate, at frequent intervals, their entire indebtedness with the Reserve Bank. As a result, the volume of their borrowings fluctuated greatly from time to time. They are to be regarded as limited borrowers in the sense that they borrowed only to meet unusual demands on the bank. They were not limited borrowers in the sense that they never borrowed heavily.

The banks in Group C are classified as heavy borrowers. This should be interpreted to mean constant borrowers as well as borrowers of large amounts. Though these banks entirely liquidated their accounts at intervals, their policy was to borrow again immediately at the Reserve Bank. A curve representing the high point of their borrowings by months shows a fairly constant volume of rediscounts.

The banks in Group D were selected without regard to their borrowing practices from among those which failed during the period. The tendency of these banks, however, was to borrow regularly. In this respect they resemble most closely the heavy borrowers.

An examination of the four groups of five banks each should disclose any tendencies peculiar to the group. Thus it may be determined how the loans of the banks which failed compared to those of the other groups. Similarly, any definite differences, between groups, of policies with respect to capital, surplus, undivided profits, deposits, or loans should be disclosed.

It is proposed, therefore, to examine certain important items for each group of banks, and upon this basis to compare the groups. The results thus obtained should facilitate an understanding of the effects of Federal Reserve Bank policy upon the

TABLE XXXVII
IOWA MEMBER BANKS

June 30	No.	Average Capital Stock
1919.....	435	\$74,170
1920.....	444	77,180
1921.....	458	77,230
1922.....	457	77,010
1923.....	455	79,510
1924.....	448	80,780
1925.....	431	81,070
1926.....	395	84,740
1927.....	355	86,920
1928.....	328	90,770

different types of Iowa member banks. The period selected covers the nine years from June 30, 1919, to June 30, 1928. First it is important to compare the groups in matters of general policy as indicated in the handling of such items as surplus, loans, and deposits.

Capital stock.—Changes in the capital-stock account constitute one measure of the expansion program of the bank. A standard for the comparison of banks on this point is the change in the average capital stock per member bank.

The steady increase in capital stock per bank was in part the result of increases in the capital of individual banks. The

greatest increases, however, came after 1924 and coincide with the period of declining membership. Probably the majority of the withdrawing banks had less than the average capital per member, and the average size was increased by their withdrawal. The expansion in the capital stock of the typical member bank was less, therefore, than the figures in Table XXXVII would indicate. The typical member bank in Iowa during the 1919-28 period increased its capital stock slightly if at all.

Capital-stock increases in the four selected groups corresponded generally to the change for all Iowa member banks,

TABLE XXXVIII
NUMBER OF BANKS, BY GROUPS, IN WHICH
CAPITAL STOCK WAS INCREASED
OR DECREASED, 1919-28

	Increased	Decreased
Group A.....	2	0
Group B.....	0	0
Group C.....	2	0
Group D.....	0	0

four of the twenty showing a gain during the period. However, there were differences among the groups. Two of the five non-borrowers (Group A) and the same number of heavy borrowers (Group C) increased their capital stock. The increases by the two non-borrowers occurred in the first half of 1920, one being 50 and the other 100 per cent. One heavy borrower increased its capital stock early in 1921, and the other, a large bank, in the first part of 1924. The increases of the latter group, coming after the inflation period, were apparently not the result of rapid growth during a time of great speculative activity. No increases occurred among the limited borrowers (Group B) or among those which later failed (Group D). There was, therefore, no apparent relationship between the rediscounting practices and the expansion policies of the twenty selected banks.

Capital investment.—A steady increase in surplus suggests a conservative attitude on the part of the management and an interest in more than the immediate returns of the bank. Likewise, the carrying of a reasonable amount in the undivided-profits item indicates a desire to maintain a margin of safety and to give increased protection to the depositors. Thus the item "capital investment" reflects the foresight of the management in the use of earnings, and is significant in appraising the policy of the bank. The tendencies in each group with respect to capital investment should indicate whether, for instance, the non-borrowing banks were pursuing a policy either more or

TABLE XXXIX

NUMBER OF BANKS, BY GROUPS, IN WHICH SURPLUS AND UNDIVIDED PROFITS WERE INCREASED OR DECREASED, 1919-28

	SURPLUS		UNDIVIDED PROFITS	
	Increased	Decreased	Increased	Decreased
Group A.....	4	0	3	2
Group B.....	1	1	2	3
Group C.....	0	5	3	2
Group D.....	1	4	1	4

less farsighted than that of the banks which were borrowing heavily.

There was a close relationship between the increase in surplus and the borrowing practices of the bank. The non-borrowers were the most successful in this respect, four of the five increasing the account during the period. Among the limited borrowers, the tendency was to keep the surplus constant. In three cases there was no change, while the increase in the fourth offset the decrease in the fifth. Still less successful were the heavy borrowers, all of the five suffering a decrease. This suggests that these institutions were experiencing losses which forced a reduction in the claims of stockholders. The failed

banks faced a similar situation. Though one bank showed a slight increase in surplus, it was a bookkeeping increase only. At the close of the period its undivided-profits account showed a \$4,000 deficit as compared with the \$1,000 nominal increase in surplus. It would be expected that the losses leading to failure would result in an impairment of surplus. Typically, the surplus item decreased rapidly during the months preceding failure.

Changes in the undivided-profits item among the groups were less pronounced. Except for the banks which later failed, there were no significant differences. Failure was preceded by a

TABLE XL
NUMBER OF BANKS, BY GROUPS, IN WHICH CAPITAL
INVESTMENT WAS INCREASED OR
DECREASED, 1919-28

	Increased	Decreased
Group A.....	4	1
Group B.....	1	4
Group C.....	2	3
Group D.....	0	5

decrease in the undivided-profits account in four of the five banks. The increase in the fifth was accompanied by a decrease in surplus.

When the capital stock, surplus, and undivided profits are added together, the trends, by groups, appear more striking than when considered separately. In thirteen of the twenty banks, capital investment was decreased, in seven it was increased. This was in line with the trend of capital investment for all Iowa member banks in which the total of \$57,224,000 on June 30, 1919, rose to a peak of \$66,904,000 on December 29, 1920, and then, except for a slight recovery in 1922, fell steadily during the remainder of the period. On June 30, 1928, the total was \$49,432,000. Considering the four groups above as a

unit, the trend was in harmony with the general developments in the banking situation.

However, important differences existed among the groups. The non-borrowers increased their capital investment in four cases, and decreased it in one. This is in marked contrast to the trend in all member banks and also to that in the other groups. It indicates that the non-borrowers as a group enjoyed larger earnings. They were thus able to expand at a time when banks generally were suffering losses in their surplus and undivided-profits accounts. Four banks in the limited-borrowing group, three in the heavy-borrowing group, and all five of the failed banks suffered losses in capital investment. The capital-stock increases by three of the heavy borrowers explain their relatively favorable showing.

A summary of the items constituting capital investment indicates that the non-borrowers were the most successful in maintaining constant or increasing their capital investment. The banks which later failed were the least successful in this respect. As between the limited and the heavy borrowers, no important differences appear. Though the heavy borrowers made greater increases in capital stock, the showing of the limited borrowers benefits from their more consistent increases in both surplus and undivided-profits items.

Deposits.—It is axiomatic that the successful operation of a bank depends directly upon its deposits. A shrinkage in deposits would force the bank into a position where the volume of its loans would have to be contracted, and where its reserves would be endangered. In such a situation the bank would be forced to resort to borrowing. The question then arises as to whether the stronger banks were those with the more successful record in the management of deposits.

The five non-borrowing banks show a fairly uniform tendency. The 1919-22 years were characterized by great fluctuations in the total volume of deposits, only one of the five ex-

perienicing an important increase. After 1922 the amount remained nearly constant except in one bank where a considerable increase occurred. It is significant that no bank in the group suffered a serious loss in deposits during 1919-28.

No such uniform tendency appears among the limited borrowers. In these no important changes occurred, the record corresponding closely to that of the non-borrowers. In the fourth bank heavy losses during 1919 and 1920 were followed by constant fluctuations and a net decrease for the period. The trend was also erratic in the fifth case, but the result was a net gain.

TABLE XLI
NUMBER OF BANKS BY GROUPS, IN WHICH DEPOSITS
WERE INCREASED OR DECREASED, 1919-28

	Increased	Decreased
Group A.....	4	1
Group B.....	2	2
Group C.....	2	3
Group D.....	0	5

The heavy borrowers have a good record with respect to deposits. In only one bank were the large borrowings from the reserve bank the result of losses in deposits.¹ The decline in deposits was greatest among the banks which later failed. Two banks in the group suffered more than the usual losses in 1920. During 1922 and 1923 increases occurred, followed in each case by a decrease in the six months preceding failure.

The foregoing record suggests that there was a general relationship between changes in deposits and the borrowing practices of banks. Thus the non-borrowers were most successful in the management of deposits, and the banks which later failed

¹ This does not imply that the ratio of deposits to capital investment and to loans was normal during the period. It is only intended to state that unusual losses did not occur after 1919.

suffered the greatest decreases. However, the differences between the limited and the heavy borrowers were not significant. It must be concluded that the trend of deposits, while a factor in the rediscounting practices of banks, do not constitute a complete explanation for those practices.

Loans.—A sound lending policy, as well as a satisfactory volume of deposits, is essential to good earnings. For many Iowa banks the test of the character of the loan accounts is more crucial than the test of its ability to attract deposits. It is generally agreed that frozen loans carried from the 1917-20 period were a common source of trouble to Iowa banks and a

TABLE XLII
NUMBER OF BANKS, BY GROUPS, IN WHICH LOANS
WERE INCREASED OR DECREASED, 1922-28

	Increased	Decreased
Group A.....	2	3
Group B.....	1	4
Group C.....	0	5
Group D.....	0	5

factor in the closing of many of them. The experience of the different groups with respect to loans should indicate whether the bank's policy in regard to this item was a factor in determining the amount of its borrowings from the Federal Reserve. Unfortunately, this comparison must be limited to the 1922-28 period, the data not being available for the earlier years.

In four of the non-borrowing banks only minor fluctuations occurred. As a result of the steady declines during 1927 and 1928, three banks experienced slight net decreases for the period. The record of the limited borrowers is roughly similar. Minor fluctuations resulting in small net decreases characterized the course of loans in four of the five. The heavy borrowers, in each case, reduced their loans during the 1922-28 period.

The brief period, for which the data on the banks which later failed are available, renders any comparison of this group with the others incomplete. The figures suggest, however, that the changes in the volume of loans were gradual, with a definite tendency to decrease during the six months preceding suspension.

Bank ratios.—The foregoing comparison, based upon an historical study of important items in twenty member banks, has indicated differences among the four groups into which the banks were divided. It is now proposed to carry the comparison farther by means of an analysis of the operating ratios of the individual banks. These ratios will be used to compare the groups with each other and also with the average ratios for all Iowa member banks.

Deposits to capital investment.—The effectiveness of the use of the capital invested by stockholders is determined by the amount of funds drawn from depositors. Thus the ratio of deposits to capital investment is an index of the profit-making possibilities of the bank. Banking experience suggests that a ratio of less than five is too low for profit. Conversely, a bank may have too large a volume of deposits in relation to its capital investment to furnish an adequate margin of safety to its depositors. Ordinarily the ratio should not exceed ten to one.

The ratio for all Iowa member banks provides a standard for the appraisal of the individual bank. Table XLIII contains the ratio of deposits to capital investment for all member banks and the foregoing twenty banks. A study of these ratios should indicate whether any correlation exists between them and the borrowing practices of the banks. Four of the non-borrowers (Group A) show a slight tendency for deposits to decline in proportion to capital investment for the period. The same tendency appears among the limited borrowers (Group B), though it is less marked. In two banks in this group there was a slight increase in this ratio. The same general tendency to a

slight decline may be noted among the heavy borrowers (Group C). Three banks in the "failed" group showed a similar tendency. The conclusion is that there were no clear-cut tendencies with respect to changes in the ratios as between the groups during the years under consideration. This, it should be emphasized, is not a comparison between the ratios of the various groups. It is rather a comparison of the amount and direction of changes in the ratios of the respective groups. The fact that the examination on this point fails to show important differences between the groups merely indicates that the relative position of the groups remained largely unchanged during the period. A more fundamental relationship, however, is measured by a direct comparison of the ratios themselves, disregarding historical changes in the ratios of the individual banks. This comparison will be more effective if made in terms of the average ratio for all member banks.

The ratio of deposits to capital investment for all Iowa member banks was 5.63 on June 30, 1919. A higher ratio than this would indicate a definitely successful policy of attracting deposits. A strong bank would be expected to have the confidence of the community and to receive a relatively larger amount of deposits in relation to capital investment. An examination of the ratios of the non-borrowing banks on June 30, 1919, shows that they were, respectively, 4.07, 8.86, 14.80, 8.30, and 6.86. Thus, in four of the five banks the ratio was above the ratio for all Iowa member banks. The results of a similar comparison for the banks in all of the groups upon the various dates are given in Table XLIV.

A group of five banks truly representative of all Iowa member banks would either have a ratio equal to the ratio for all banks or have the same number of banks with a ratio above as it had with a ratio below the average. On the seventeen dates for which the comparison was made, three banks in Group A (non-borrowers) had a ratio higher than that for all member

TABLE XLIII
RATIO OF DEPOSITS TO CAPITAL INVESTMENT

	ALL IOWA MEM- BERS	GROUP A					GROUP B					GROUP C					GROUP D				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6-30-19.....	5.63	4.0	8.8	14.8	8.3	6.8	7.3	4.6	4.1	11.4	7.5	2.8	3.7	4.1	16.8	5.2	6.7	6.0	8.7	...	9.7
12-31-19.....	6.14	5.2	8.9	14.4	10.5	7.5	9.9	5.4	4.0	9.7	6.9	3.5	3.9	4.2	16.1	5.3	7.2	6.0	10.0	...	10.1
6-30-20.....	5.70	4.8	8.6	8.7	8.6	4.0	9.3	4.5	3.8	7.7	7.4	3.5	4.8	4.7	13.5	4.7	6.5	5.4	8.7	2.4	8.9
12-29-20.....	4.78	4.7	6.1	7.3	10.6	4.3	7.7	4.3	3.7	4.8	6.2	0.6	3.8	3.8	10.4	3.6	5.2	4.1	7.6	2.3	7.7
6-30-21.....	4.69	4.3	5.0	8.8	8.4	3.7	7.5	3.2	3.5	5.6	6.0	3.6	3.3	4.4	11.0	3.5	5.5	4.5	6.2	2.4	7.9
12-31-21.....	4.75	3.8	5.6	10.5	8.5	4.6	7.9	3.2	4.4	5.4	5.7	3.4	3.3	4.2	11.8	2.7	4.9	4.5	6.0	2.2	7.9
6-30-22.....	4.91	4.2	5.8	10.2	9.2	3.8	8.1	3.3	4.1	7.3	6.3	3.4	4.2	4.7	13.0	3.5	4.9	5.5	6.3	1.3	7.9
12-29-22.....	5.03	3.9	6.0	10.0	9.7	4.2	8.2	3.4	4.0	5.9	6.4	4.2	4.3	4.6	11.8	3.3	5.6	5.4	7.5	1.5	7.7
6-30-23.....	5.60	4.1	6.8	10.8	10.5	4.5	9.0	3.5	4.2	7.3	7.4	3.7	4.3	5.1	15.5	3.9	...	6.5	9.9	1.4	8.9
12-31-23.....	5.79	4.0	7.1	10.6	11.2	4.7	9.7	3.5	4.3	7.1	9.0	3.3	4.2	4.8	14.6	3.4	...	6.5	11.3	1.2	8.6
6-30-24.....	5.81	3.8	6.3	10.8	10.1	4.9	8.0	3.1	4.2	8.1	11.2	3.2	4.0	4.8	12.2	3.8	...	8.6	10.9	1.1	10.5
12-31-24.....	6.30	4.1	7.3	11.9	11.5	5.7	8.9	3.4	4.2	9.4	11.6	3.1	3.8	4.7	9.3	3.7	...	...	...	...	8.8
6-30-25.....	6.29	4.4	6.9	11.8	10.5	5.8	7.9	2.9	4.1	0.2	11.3	4.0	3.4	5.0	9.5	4.0	...	...	...	...	...
12-31-25.....	6.59	4.7	7.7	11.4	9.6	6.2	7.9	3.3	3.8	8.4	13.6	3.6	3.1	4.3	8.7	3.4	...	...	...	...	...
6-30-26.....	6.47	4.9	6.9	11.4	10.4	5.5	7.9	4.3	3.9	8.5	12.0	3.9	3.4	4.4	8.7	4.0	...	...	...	...	...
12-31-26.....	6.60	4.7	6.6	11.3	12.4	6.0	6.7	4.8	4.3	7.9	13.1	2.9	2.6	6.2	7.9	4.0	...	...	...	...	...
6-30-27.....	6.76	4.5	6.6	11.2	10.2	5.8	8.3	4.3	4.2	8.6	9.7	2.5	2.2	6.3	7.4	4.4	...	...	...	...	...
12-31-27.....	...	4.6	7.2	11.2	11.0	6.5	8.4	4.6	4.3	8.2	10.2	2.8	2.2	5.6	8.6	4.3	...	...	...	...	...
6-30-28.....	...	4.4	6.6	10.9	9.0	6.3	7.8	4.8	3.7	9.9	10.1	2.8	2.5	5.0	7.8	4.9	...	...	...	...	...

banks on fourteen of the dates. On two dates there were four banks and on one date two banks above the average ratio. Thus there was a definite tendency for the non-borrowing banks to have a higher ratio than that for all member banks.

The same tendency appears among the limited borrowers. On every date three banks had a ratio above the ratio for all member banks. Among the heavy borrowers, however, an op-

TABLE XLIV

NUMBER OF BANKS, IN GROUPS OF FIVE, WITH RATIO OF DEPOSITS
TO CAPITAL INVESTMENT ABOVE THE RATIO OF ALL
IOWA MEMBER BANKS, 1919-28

	Group A	Group B	Group C	Group D
6-30-19.....	4	3	1	4*
12-31-19.....	4	3	1	4
6-30-20.....	3	3	1	3
12-29-20.....	3	3	2	3
6-30-21.....	3	3	1	3
12-31-21.....	3	3	1	3
6-30-22.....	3	3	1	3
12-29-22.....	3	3	1	4
6-30-23.....	3	3	1	3*
12-31-23.....	3	3	1	3*
6-30-24.....	3	3	1	3*
12-31-24.....	3	3	1	.....
6-30-25.....	3	3	1	.....
12-31-25.....	3	3	1	.....
6-30-26.....	3	3	1	.....
12-31-26.....	3	3	1	.....
6-30-27.....	2	3	1	.....

* Only four banks in group at this date.

posite tendency is found. This group had, except at one date, only one bank out of the five with a ratio above the average. This suggests that the banks which were borrowing heavily from the Federal Reserve were those that were unable to maintain an adequate volume of deposits in proportion to the capital investments of the bank.

Group D, composed of banks which later failed, and selected without regard to their borrowing practices, had a higher ratio of deposits to capital investment than the other groups. At four

of the eleven dates for which the ratio figures are available there were only four banks in the group. Had the data been complete, the percentage of cases in which the ratio for banks in this group was above the all member-bank ratio would have been still higher. The higher deposits-to-capital-investment ratio of the Group D banks was not due, however, to their ability to attract deposits. The four banks in this group in operation, June 30, 1924, had 22.5 per cent less deposits and 31.5 per cent less capital investment than at the same date five years earlier. Thus the high ratio was the result of a sharp decline in capital investment through diminishing-surplus and undivided-profits accounts—and a smaller corresponding loss of deposits.

The foregoing comparison suggests that the borrowing practices of member banks were determined largely by their success in securing deposits. Whereas the non-borrowers enjoyed a considerable increase in deposits and the limited borrowers experienced only a moderate decrease, the heavy borrowing and failing banks suffered large losses in the volume of deposits. Other factors added to the difficulties of the latter group, particularly. High operating costs cut heavily into earnings. The losses on bad loans emphasize the importance of the loan policy in bank administration.

Loans to capital investment. — The ratio of loans to capital investment is a useful index of the bank's policy with respect to credit extension. A conservative policy tends to be reflected in a low ratio and a steady volume of loans in a constant ratio. While no figure can be set up to which a given bank may be expected invariably to conform, two general standards are useful in judging the policy of the bank. The Joint Commission of Agricultural Inquiry found that the ratio for all national banks in the United States was 3.8 in 1915 and 5.5 in 1920.¹ The

¹ *Report of the Joint Commission of Agricultural Inquiry*, Part 2, p. 13. Undivided profits were not included in the data from which the Commission's ratio was obtained. Its addition would result in lowering the ratio.

range for Iowa member banks was 5.1 to 5.7, as compared to the 5.5 ratio for national banks. The individual bank ratios may be compared to the ratio for Iowa member banks, according to the method used above in connection with the ratio of deposits to capital investment. The results of this comparison are shown in Table XLV.

The number of individual banks in each group having a ratio above the ratio for all Iowa member banks was determined for each date. The results of this comparison, presented in Table XLVI, provide the basis for a comparison by groups of the expansion of loans with reference to invested capital.

The non-borrowing banks (Group A) show a definite tendency to a lower ratio of loans to capital investment than the ratio for all Iowa member banks. On eleven of the thirteen dates only one bank in this group had a higher ratio.¹ On two dates two banks had a higher ratio. The limited borrowers show a similar, and slightly more marked, tendency to a low volume of loans in relation to capital investment. At each date only one bank in five had a higher ratio than that for all member banks. Thus in both groups the ratio reflects a more conservative lending policy than practiced by the representative Iowa member bank or by the representative national bank in the United States.

The heavy borrowers were more liberal lenders. On six dates three, on four dates two, and on three dates one of the banks in this group had a higher ratio than the average for all member banks. The greatest expansion of loans by the heavy borrowers occurred during the first half of the period for which the data are available. The loans of the failed banks were still larger. On two dates four, and on three dates three, of the five banks in this group had increased their loans to a greater degree than the representative Iowa member bank.

¹ Unfortunately, data on loans of individual banks are not available for the 1919-21 period.

TABLE XLV
RATIO OF LOANS TO CAPITAL INVESTMENT

	IOWA MEMBER BANKS*	GROUP A					GROUP B					GROUP C					GROUP D				
		1		2		3		4		5		1		2		3		4		5	
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6-30-22	5.3	2.7	4.3	8.5	4.3	2.4	6.5	3.3	3.1	4.7	4.2	5.5	7.8	4.9	9.9	5.1	8.0	7.0	7.6	3.3	7.8
12-20-22	5.3	2.4	4.8	8.6	3.6	2.2	7.2	3.1	2.8	4.5	3.8	5.2	7.2	6.4	10.7	4.7	8.5	7.5	8.0	3.3	7.3
6-30-23	5.6	2.5	3.4	9.3	4.3	2.4	7.5	3.6	3.0	5.3	3.8	5.1	6.4	6.1	11.3	4.2	...	7.4	9.8	2.4	7.4
12-31-23	5.7	2.6	4.7	9.1	3.9	2.5	8.3	3.1	3.1	5.3	4.9	5.1	6.1	6.0	12.8	4.4	...	7.4	10.8	2.0	7.6
6-30-24	5.6	2.5	4.3	9.4	4.3	2.6	7.6	3.3	2.8	5.0	5.1	5.0	6.3	5.9	9.5	4.4	...	10.6	10.0	1.8	0.2
12-31-24	5.6	2.4	4.4	9.8	4.6	2.6	7.7	2.9	2.6	4.9	5.3	4.9	5.9	6.0	6.4	4.3	...	...	...	...	8.2
6-30-25	5.5	2.7	4.4	9.9	6.0	2.7	7.9	2.6	2.8	4.7	4.9	4.8	4.7	5.8	0.8	3.8	...	...	...	...	...
12-31-25	5.5	2.7	4.1	9.6	5.2	3.0	7.3	2.7	2.6	3.9	4.7	5.0	4.6	5.2	5.8	3.9	...	...	...	...	...
6-30-26	5.3	2.7	3.9	9.7	5.2	2.8	7.0	3.0	2.6	4.3	4.6	4.7	5.0	4.6	5.0	5.6	4.3	...	...	...	...
12-31-26	5.2	2.4	5.1	9.5	5.9	3.0	6.7	3.0	2.5	3.7	4.4	4.2	4.2	3.6	6.6	5.5	4.4	...	...	...	...
6-30-27	5.1	2.4	4.4	9.5	4.7	2.7	7.0	2.7	2.7	4.3	3.9	3.6	3.1	6.1	5.2	3.8	...	...	...	...	...
12-31-27	5.1	2.4	5.0	8.8	4.6	2.9	7.5	2.8	2.5	3.6	4.2	3.6	3.1	6.0	0.7	4.0	...	...	...	...	...
6-30-28	5.1	2.3	3.9	8.9	3.2	2.9	7.5	2.5	2.3	4.3	4.3	3.4	2.5	4.1	5.4	3.7	...	...	...	...	...

* During 1919-21 the ratio for Iowa member banks fluctuated between 5.1 and 5.9.

This comparison indicates definitely that the heavy borrowing and the failing banks had expanded their loans further in proportion to capital investment than the other groups. Thus the heavy borrowers rediscounted with the Federal Reserve, not only because their deposits were low, relatively, but also because of a liberal lending policy. In both groups the ratio of loans to capital investment is abnormally high. A large propor-

TABLE XLVI

NUMBER OF BANKS, IN GROUPS OF FIVE, WITH RATIO OF LOANS
TO CAPITAL INVESTMENT ABOVE THE RATIO OF ALL
IOWA MEMBER BANKS, 1922-28*

	Group A	Group B	Group C	Group D
6-30-22.....	I	I	3	4
12-20-22.....	I	I	3	4
6-30-23.....	I	I	3	3†
12-31-23.....	I	I	3	3†
6-30-24.....	I	I	3	3†
12-31-24.....	I	I	3	.....
6-30-25.....	2	I	2	.....
12-31-25.....	I	I	I	.....
6-30-26.....	I	I	I	.....
12-31-26.....	2	I	2	.....
6-30-27.....	I	I	2	.....
12-31-27.....	I	I	2	.....
6-30-28.....	I	I	I	.....

* Compiled from data in Table XLV.

† Only four banks in group at this date.

tion of these loans was made in the prosperous days preceding the depression of 1920 and 1921. Thus the banks calling upon the Federal Reserve for aid during the 1921-24 period, and to some extent after 1924, were forced to borrow heavily because of liberal lending. The loans, moreover, rested upon inflated land, crop, and live-stock values. Sharp price declines and vanishing markets made severe cuts in customers' incomes. Generous loans on inflated values, now frozen, combined with falling deposits, drove the member bank to the Federal Reserve for help.

In addition to the foregoing comparison certain general characteristics are significant. A slightly greater tendency to progressively reduce the volume of loans appears among the heavy borrowers. This suggests a policy of contracting loans and a growing tendency toward a more conservative attitude on the part of these banks. The ratio of the non-borrowers and the limited borrowers show greater uniformity during the period, indicating a more consistent lending policy. The data on the failed banks, being for a shorter period, are too inadequate for generalization on this point. Increasing conservatism in lending was a desirable policy for Iowa banks, particularly for those with overexpanded loan accounts. The bank suffering from losses on loans made on inflated values during 1918-20 could ill afford further losses. Their hope lay in increasing deposits and in an increasing volume of good loan accounts, both objectives becoming increasingly difficult during the 1921-29 period.

Deposits to loans.—In the representative commercial bank in the United States, loans and investments are equal approximately to deposits. The record of a given bank may, therefore, be judged in terms of this usual ratio and—what may be the same thing—in terms of the ratio for all Iowa member banks.¹ Though it is not possible to judge the bank upon the basis of this ratio alone, since a variety of circumstances peculiar to the bank might be an important consideration, a greater volume of loans than deposits would suggest a lack of reasonable care and foresight in the extension of credit. As this ratio is stated, a figure higher than one indicates roughly a conservative loan policy. More specifically, a figure higher than that for all Iowa member banks at a given date indicates a tendency toward underexpansion of loans in proportion to deposits in terms of the practices of Iowa member banks as a group. The

¹ The ratio of deposits to loans for all country national banks in Iowa was 1.5 on June 30, 1928. At the same date the ratio for all national banks in the United States was 1.28.

TABLE XLVII
RATIO OF DEPOSITS TO LOANS

	IOWA MEMBER BANKS*	GROUP A					GROUP B					GROUP C					GROUP D					
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
6-30-22.....	0.9	1.5	1.3	1.2	2.1	1.5	1.2	1.0	1.2	1.5	1.4	0.6	0.5	0.9	1.3	0.6	0.6	0.7	0.8	0.4	1.0	
12-29-22.....	0.9	1.7	1.2	1.1	2.7	1.9	1.1	1.1	1.5	1.2	1.6	0.8	0.6	0.7	1.1	0.7	0.7	0.7	0.9	0.5	1.1	
6-30-23.....	1.0	1.6	2.0	1.2	2.4	1.9	1.2	1.0	1.4	1.3	1.9	0.7	0.7	0.8	1.3	0.9	.....	0.8	1.0	0.6	1.2	
12-31-23.....	1.0	1.6	1.5	1.2	2.8	1.9	1.1	1.1	1.3	1.3	1.8	0.6	0.7	0.7	1.1	0.7	.....	0.8	1.0	0.6	1.1	
6-30-24.....	1.0	1.5	1.5	1.1	2.3	1.9	1.0	1.0	1.5	1.6	2.1	0.6	0.6	0.7	0.8	1.2	0.8		0.8	1.0	0.6	1.1
12-31-24.....	1.1	1.6	1.6	1.1	2.5	2.2	1.1	1.2	1.5	2.5	2.1	0.6	0.6	0.7	1.4	0.8	.....	0.8	1.0	0.6	1.1	
6-30-25.....	1.1	1.6	1.6	1.2	1.7	2.1	1.0	1.1	1.4	1.9	2.2	0.8	0.7	0.8	1.4	1.1	.....	.....	.....	.....	1.1	
12-31-25.....	1.2	1.7	1.9	1.2	1.8	2.1	1.1	1.1	1.2	1.4	2.1	2.8	0.7	0.7	0.8	1.5	0.8	.....	.....	.....	.....	
6-30-26.....	1.2	1.8	1.8	1.2	2.0	1.9	1.1	1.4	1.4	1.9	2.6	0.8	0.8	0.8	1.5	0.9	.....	.....	.....	.....	.....	
12-31-26.....	1.3	1.9	1.4	1.2	2.1	2.0	1.0	1.6	1.7	2.1	2.9	0.7	0.7	0.9	1.4	0.9	.....	.....	.....	.....	.....	
6-30-27.....	1.3	1.9	1.5	1.2	2.1	2.2	1.1	1.6	1.5	1.9	2.4	0.7	0.7	1.0	1.4	1.1	.....	.....	.....	.....	.....	
12-31-27.....	.....	1.9	1.4	1.2	2.4	2.2	1.1	1.6	1.6	2.2	2.3	0.8	0.7	0.9	1.2	1.1	.....	.....	.....	.....	.....	
6-30-28.....	.....	1.9	1.7	1.2	2.8	2.2	1.0	1.9	1.6	2.2	2.3	0.8	1.0	1.2	1.4	1.3	.....	.....	.....	.....	.....	

* During 1919-21 the ratio for Iowa member banks fluctuated between 0.8 and 1.1.

higher the figure, therefore, the more marked the tendency toward a conservative loan policy. The ratio of deposits to loans for all Iowa member banks and for the four groups of representative member banks is given in Table XLVII.

Using the ratio for all Iowa member banks as the standard, the four groups of banks under consideration may be further examined with respect to the proportion of deposits to loans. Using the same method as in the ratios already considered, the

TABLE XLVIII
NUMBER OF BANKS, IN GROUPS OF FIVE, WITH RATIO OF DEPOSITS
TO LOANS ABOVE THE RATIO FOR ALL
IOWA MEMBER BANKS, 1922-28*

	Group A	Group B	Group C	Group D
6-30-22.....	5	5	1†	0†
12-29-22.....	5	5	1	0
6-30-23.....	5	4†	1	0†
12-31-23.....	5	5	1	0†
6-30-24.....	5	3‡	2	0†
12-31-24.....	4†	4†	1	.....
6-30-25.....	5	3†	1	.....
12-31-25.....	4†	3†	1	.....
6-30-26.....	4†	4	1	.....
12-31-26.....	4	4	1	.....
6-30-27.....	4	4	1	.....

* Compiled from data in Table XLVII.

† In one case the ratio for the individual was the same as the average for all member banks.

‡ In two cases the ratio same as the average.

number of banks in each group with a ratio above the average at each date was first determined. These results are presented for comparison in Table XLVIII.

The volume of deposits and of loans approached equality for all Iowa member banks. A definite trend away from equality during a part of the period, however, is evident. During 1919-21 loans increased more rapidly than deposits. Since 1922 the trend has been in the opposite direction and deposits have grown the more rapidly, the ratio changing from 0.9 in 1922 to 1.3 in 1927. This being the average for all banks, the

more conservatively managed banks would show a smaller volume of loans to a given volume of deposits or, in terms of the statement of this ratio, a higher figure.

Upon six of the eleven dates for which the comparison was made, all five banks in the non-borrowing group had a higher ratio than the average. On five dates four banks had a higher ratio, and at three of these times the fifth bank had a ratio equal to that for all member banks. There was in this group, therefore, a pronounced tendency toward a smaller volume of loans than of deposits.

A similar, though less pronounced policy, existed among the limited borrowers. At three dates five banks, at five dates four banks, and at three dates three banks had a higher ratio than the average. In four of the foregoing cases one bank and in one case two banks had a ratio equal to the average for all member banks. Thus the limited borrowers followed a conservative policy with respect to the deposits-to-loans ratio, though only slightly less so than the non-borrowing banks.

A radically different policy is found among the heavy borrowers. On ten dates only one bank was above the average, with at one time a second bank having a ratio equal to the average. At one date two banks had a ratio above that for all Iowa member banks. Thus the heavy borrowers had expanded their loans in proportion to deposits very liberally. The failed banks show a still more pronounced tendency with respect to heavy lending. No bank in this group had a ratio above the average on any of the five dates for which the data are available, though on four of the five dates one bank had a ratio equal to the average.

Capital, loans, and deposits.—The foregoing survey of policies of borrowing banks has been in terms of individual bank items. A more complete picture of the policies is afforded by a summary of the combined items. The 1919-28 period was one of a net decrease in capital investment, loans, and deposits for

most of the banks under consideration. A comparison of the relative changes in these three items for each group of representative banks, as given in Table XLIX, indicates the outstanding differences in the four groups of member banks.

During the nine-year period, the capital investment of the non-borrowers increased 41.2 per cent. Though this total was influenced by the large capital increases by two large institutions in the first year of the period and may not be typical of all non-borrowing banks, it is significant that only one bank in

TABLE XLIX
PERCENTAGE OF DECREASE IN ITEMS OF REPRESENTATIVE
MEMBER BANKS, BY GROUPS

Group	Period	Capital Investment	Deposits	Loans*
A.....	1919-28	41.2†	26.4†	2.6
B.....	1919-28	8.5	13.1	20.5
C.....	1919-28	20.5†	35.5	35.4
D (4 banks).....	1919-28	22.1	27.1	52.6
D (4 banks).....	1919-24	31.5	22.5	12.9
A.....	1919-24	36.1†	8.7	13.3

* Period included in each case dates from 1922.

† Percentage of increase.

this group suffered a net decrease in the combined surplus and undivided-profits items during the period. The earnings of the non-borrowers were adequate to cover operating expenses, to absorb losses on bad loans, to reinvest important sums in the business, and perhaps to pay dividends to stockholders. Though the period was one of declining total bank deposits, there was a net increase of 26.4 per cent in the deposits of this group. At the same time their loans decreased 2.6 per cent. With respect to deposits, the non-borrowers were highly successful. While their deposit accounts increased 26.4 per cent, those of the other three groups decreased from 13 to 35 per cent. The loan accounts of the non-borrowers likewise held up much better than the loans of the other groups. The 2.6 per

cent decrease for this group compares with the 13-35 per cent decreases in the other three groups.

The relationship between deposits and loans in each group is significant. The 26.4 per cent increase in deposits and 2.6 per cent decrease in loans of the non-borrowers reflects a smaller relative loan expansion at the close of the period. At the same time the volume of their operations did not suffer. The great increase in deposits made funds available for investment and thus useful in increasing the earnings of the bank at a time when conditions forced some contraction in loans. It was the deposits-loans situation in these banks which made adequate earnings possible and permitted an increase in capital investment.

The record of the limited borrowers, though not so good, shows similar tendencies. While loans were reduced 20.5 per cent, deposits declined 13.1 per cent, a definite relative contraction in loans. Capital investment decreased still less (8.5 per cent), indicating that operating costs and losses on loans did not greatly exceed earnings. It was not necessary seriously to disturb undivided-profits and surplus accounts.

Sharp fluctuations in all three items occurred among the heavy borrowers. Deposits fell off 35.5 per cent, and loans, 35.4 per cent. In the face of such a great decline in the volume of deposits it was necessary to contract loans very sharply. The success of the group in reducing loans kept them out of the failed-bank column. The 20.5 per cent increase in capital investment is quite surprising in view of the behavior of loans and deposits. However, there was one large bank in this group in which the increase in capital stock from \$600,000 to \$1,000,000 exceeded the decrease in the capital investment of the other four banks in the group. Omitting the one large bank, the heavy borrowers are found to have had a 22.1 per cent decrease in capital investment, a 27.1 per cent decrease in deposits, and a 52.6 per cent decrease in loans. The survival of the

heavy borrowers was due apparently to effective collection policies. With sharply falling loan and deposit accounts and the resultant loss in earnings, heavy losses from bad debts would have been reflected in diminishing surplus and net-worth items. Though four of the five banks in the group suffered considerable decreases in net worth, the losses were not sufficiently serious to impair the capital stock of any bank. Their continued operation in 1928, following heavily overextended loan accounts in 1919 and falling deposits during the period, suggests, therefore, a fairly successful collection program. Federal Reserve aid was of greatest value to the heavy borrowers. These banks were suffering more from overexpanded loans than from poor-quality loans. So far as their difficulties were due to overexpansion of collectible but slow loan accounts, liberal advances from the Federal Reserve were highly effective. In the case of the largest bank these borrowings were liquidated in 1924, in each of the others early in 1928. Thus the difficulties of the heavy borrowers were rather temporary. Advances from the Federal Reserve over a period of years enabled them to scale down loans, take their losses, and readjust operations to the changed conditions.

The group of failed banks present a striking contrast to the heavy borrowers. They were suffering primarily from low-quality loans rather than from overextended loan accounts.¹ This is shown in their enormous losses in capital investment and in the relatively small reduction in the volume of loans outstanding. Thus, while capital investment decreased 31.5 per cent and deposits 22.5 per cent, loans were reduced only 12.9 per cent. The shrinkage in deposits should have forced at least a corresponding reduction in loans. That the reduction in loans was only 57 per cent of the decrease in deposits indicates either an increasingly reckless lending policy or inability to collect

¹ Inasmuch as one bank failed in 1922, the percentages are based on the four which continued in operation through June 30, 1924.

existing loans. In four banks the undivided-profits account was wiped out and the surplus account reduced from six months to two years prior to failure. The fifth bank carried \$6,000 in its undivided-profits account at the date of its last report before closing, but a year earlier had written off its \$25,000 surplus account. These banks were suffering heavy losses which cannot be explained on the basis of reduced operations. Neither do increased operating expenses during these years offer an adequate explanation. The evidence points to unprofitable loan accounts—otherwise the decreases in the net-worth items would not have occurred. The almost one-third decline in invested capital of the failed group further reinforces the conclusion that these banks faced heavy losses which they found impossible to absorb from operating income. As uncollectible loan accounts were written off, surplus and undivided profits accounts were charged with corresponding amounts and in some cases were completely written off. Ultimately the bank's capital was impaired and receivership became inevitable.

Inasmuch as the period for the failed banks in the foregoing comparison is four years shorter than for the other groups, the results are not entirely comparable. If the record of the non-borrowers is examined for this shorter period (1919-24), a more adequate comparison is possible. During these five years the capital investment of the non-borrowers increased 36.1 per cent, while that of the failed banks decreased 31.5 per cent. Deposits of the first group decreased 8.7 per cent; those of the second group, 22.5 per cent. Loans for the two groups were reduced 13.3 per cent and 12.9 per cent, respectively. This more direct comparison indicates the same definite tendencies as for the longer period. The differences, however, are not so striking. Thus the better showing of the non-borrowers is partially due to gains made after 1924. Deposits increased sharply, and loans were considerably reduced during these years. The conclusions already stated concerning the policies of the failed banks are

reinforced by this examination. In contrast with the non-borrowers, they were suffering from bad loans and greatly over-expanded loan accounts and from a shrinking volume of deposits.

Federal Reserve assistance. The four groups of member banks, classified according to borrowing practices, may be sharply differentiated on the basis of two policies. The first relates to the quality and amount of loans preceding the severe business depression in 1920. The second bears upon the ability of the bank to attract deposits during the years following the depression. Though the loan policy during the depression period was also important, all groups showed an increasing tendency toward conservative lending. Differences in the volume of loans of the various groups during these years were, moreover, determined largely by the effectiveness of collection programs rather than by the standards for the granting of new loans. The success of collections in turn depended upon the quality of the loans of the earlier years.

Undisturbed by heavy losses from loans made in the pre-depression years, the non-borrowers were outstandingly successful in expanding deposits in the following period. At no time during 1919-28 did they find it necessary to borrow from the Federal Reserve Bank. To them the benefits of the system were mainly indirect. They enjoyed the general benefits which the system brought to the financial structure, but they did not receive credit assistance.

The limited borrowers were less successful in their managerial policies than the non-borrowers. The fact that they were able to effect a considerable reduction in loans without a great decrease in net worth suggests that they did not suffer heavily from bad loans. Though loans were doubtless overextended, the average quality of the accounts was high. The inability of this group to hold up its volume of deposits was its chief weakness. Though they exercised commendable self-control in the inflation period, the limited borrowers were less effective in

meeting the demands for more aggressive policies in the struggle for business after 1921. To this group the Federal Reserve was a useful though not an indispensable source of credit. These banks were not hard pressed, and borrowed only at irregular intervals from the Reserve Bank.

The heavy borrowers were less ably managed and their policies were more erratic. During the pre-depression era they made loans liberally. Fortunately the average quality of their loans was high and they were able to collect a large proportion of them. It was the effective collection work of these institutions, combined with credit advances which they were able to obtain during the emergency, that enabled them to escape insolvency. During the struggle for deposits in the retrenchment era, they were the least successful of all the groups. Thus, diminishing deposits gave an added incentive for borrowing from the Federal Reserve Bank until loan accounts could be correspondingly reduced. Without outside assistance failure would have been the only alternative. In 1928 this group was still in operation and their borrowings were completely liquidated. Though the earnings of these banks are doubtless low and a further loss of deposits may force them into receivership, they still have hopes of indefinite operation. A period of expanding business activity in which they are able to maintain their relative position in competition for deposit and loan accounts would enable these banks to improve their condition and to realize satisfactory earnings.

The failed banks suffered most from loans of poor quality. Loans on highly inflated land, crop, and live-stock values later proved uncollectible and brought heavy losses to these banks. Loan accounts were also overextended, though this condition alone would not have produced insolvency. Federal Reserve assistance prolonged the existence of these banks but did not enable them to avoid receivership. With earnings inadequate to cover losses on bad loans and to meet operating expenses

even liberal credit advances could not save these institutions. Only outright contributions could offer effective aid. Whether the stockholders were unable to make such contributions or whether they felt that losses were too great to justify such a procedure, it is impossible to determine. The Federal Reserve Bank could not be expected to grant the necessary subsidies. It had a duty to those institutions in need of more or less temporary assistance which gave promise of being able to work out of an overextended condition. Few would maintain that the system had a duty to underwrite the bad loans of member banks.

As compared with the heavy borrowers, the failed banks received less liberal advances from the Federal Reserve. The first group was suffering mainly from an overexpansion of loans; the second, from low-quality loans. Whereas liberal credit advances offered substantial relief to the first group, only earnings adequate to absorb the losses on bad debts could bring permanent relief to the second group. Since these banks were unable to realize the necessary earnings, insolvency became inevitable.

The borrowing practices of the foregoing groups of representative member banks were a function of the management of loans and deposits. Conservative lending, combined with a satisfactory volume of deposits, made the bank independent of outside assistance. Overextended loan accounts, uncollectible loans, and shrinking deposits made borrowing necessary. Institutions caught with overexpanded loan accounts of good quality needed temporary assistance. To this group the Federal Reserve was able to offer effective aid. The banks suffering from losses on loans and declining earnings faced greater difficulties. Credit advances from the Federal Reserve provided temporary assistance which was valuable in permitting more effective liquidation of loan accounts. However, credit advances were not sufficient to permit continued operation.

CHAPTER VI

CONCLUSION

Many factors have combined to produce the serious difficulties which banking in Iowa has faced in recent years. Agriculture, the major industry, has suffered from prolonged depression following a period of inflation in land, crop, and live-stock values. The decline of the small community and the increasing competition of banks in larger centers with the small country bank have made readjustments necessary. Losses on bad loans of the pre-depression period and a shrinking volume of total bank deposits have brought difficulties to many banks. Numerous failures have resulted—420 state and national banks closing their doors in the seven years ending June 30, 1930. This decline in number and resources of all banks is reflected in the decreased number and resources of member banks. The Federal Reserve, however, was relatively stronger in Iowa in 1930 than in 1919.

Member-bank borrowings were largely from the Reserve Bank. The System was of benefit, particularly, to banks suffering from overextended rather than poor-quality loans. Other liberal lenders, less fortunate in the selection of loan accounts, obtained temporary relief which made for the more orderly liquidation of their affairs. The more conservative lenders during 1917-20 borrowed for short intervals or not at all. While these institutions received little or no credit assistance, they benefited from the greater stability which the Federal Reserve System gave to the financial structure.

Though the Federal Reserve has been severely criticized in Iowa, evidence is lacking to indicate that the administration of the System discriminated against banks in agricultural sec-

tions. Credit assistance to member banks in 1920 was prompt and generous. The later pressure for liquidation of member-bank borrowings was in line with the purpose of the System, designed to furnish short-term credit, and with the tradition against borrowing from the Reserve Bank. As a group, member banks were better managed than the non-member banks. They were more successful in attracting deposits and more conservative in extending credit.

